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A HAND-BOOK OF NURSING

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JOURNAL.

A HAND-BOOK
OF
NURSING

REVISED EDITION

FOR HOSPITAL AND GENERAL
USE

PUBLISHED UNDER THE DIRECTION OF THE
CONNECTICUT TRAINING-SCHOOL FOR NURSES
CONNECTED WITH THE GENERAL HOSPITAL SOCIETY
NEW HAVEN, CONNECTICUT



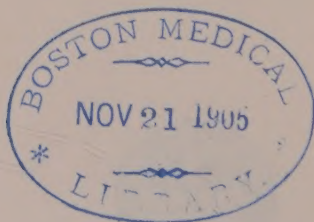
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“But welcome fortitude, and patient cheer,
And frequent sights of what is to be borne!
Such sights, or worse, as are before me here,—
Not without hope we suffer and we mourn.”

“It is very good for strength
To know that some one needs you to be strong.”



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FOR NURSES.

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Published March, 1905.

PREFACE TO THE EDITION OF 1905.

THE general advance in the science of medicine, and consequently in nursing, makes it necessary to change and enlarge the Connecticut Hand-Book of Nursing of 1878. All private nurses to be successful must be trained hospital nurses, and while losing officialism and gaining time and freedom for a more personal sympathy, must bring to their private patients the steadying influence of careful hospital drill. For this reason this new edition provides instruction for hospital nurses in preparation for their later work in private families.

In preparing the revision late authorities on medical and surgical subjects have been consulted, graduate nurses have made valuable contributions, and the school is especially indebted to six members of the attending staff of the hospital, and of the medical college, who have kindly read over and corrected a large part of the manuscript.

The book is not intended to take the place of class-room instruction, but to assist the nurse in the intelligent performance of her daily duties.

G. W. B.

INTRODUCTORY TO THE EDITION OF 1878.

FROM PRESIDENT PORTER, OF YALE
COLLEGE.

THIS Hand-Book of Nursing was prepared for the use of the Training-School for Nurses in the State Hospital, New Haven, Connecticut. The committee who have the oversight of this institution thought it important that a summary of practical directions should be placed in the hands of nurses, so simple as to be easily understood, and so comprehensive as to provide for the ordinary routine of duties among the sick. Though brief in language and simple in its form, it is the fruit of the experience of years in the supervision of hospital cases and duties. The position and character of the ladies who have supervised its preparation, and of the professional gentlemen who have given it their sanction, are such as to entitle it to the confidence of the public.

N. PORTER.

NEW HAVEN, May 24, 1878.

FROM PRESIDENT WOOLSEY.

HAVING heard a considerable part of the Hand-Book of Nursing read before its publication, I feel quite ready to speak a good word for it, which may accompany it when it shall go forth into the world. The object which it has in view is one the importance of which was not duly felt until the late war, when the wants of sick and wounded soldiers prompted humane women all over the land to devote themselves to this special work of mercy. Since then their pre-eminent fitness has been abundantly manifest for acting in the family and the neighborhood, under the direction of physicians and surgeons, in the discharge of those offices which sudden accidents and general watchfulness at the sick-bed demand,—without which watchfulness many lives would be lost. The office of trained female nurses is now recognized, but besides these persons, there are women who in less responsible spheres can do a blessed work, for the performance of which, in very many cases, no one else can be found. But these gentle helpers need to have their kindness guided by simple knowledge and simple rules; otherwise they might do harm before learning to do good. It is for such as these, as well as for professed nurses, as I understand it, that this book is intended; and I cannot but believe that the instructions in this volume will prove to be means of saving many lives by qualifying those who have the nurse's first quality—sympathy—for their work.

THEODORE D. WOOLSEY.

NEW HAVEN, May 29, 1898.

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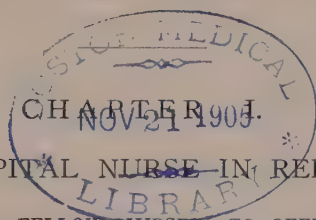
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PART I

MEDICAL AND SURGICAL
NURSING

A

HAND-BOOK OF NURSING.



THE HOSPITAL NURSE IN RELATION:

TO HERSELF—TO FELLOW-NURSES—TO OFFICERS OF THE
SCHOOL—TO THE DOCTOR—TO THE PATIENT—TO WARD
DUTIES.

TO HERSELF.

Appearance.—A nurse's greatest charm is cleanliness of person and dress. Daily attention to bathing the body, and especially the feet and axillæ, is required. Hands and nails need unremitting care to be presentable, and the teeth should be in good order and thoroughly clean. There is nothing more offensive in a nurse than a bad breath, which so often accompanies neglected teeth, disordered digestion, or catarrhal affections. No woman with chronic catarrh should be a nurse.

Avoid perfumes, ornaments and ribbons. The hair should be neatly and becomingly arranged. Frequent shampooing is a necessity—not a luxury. The dress should be noiseless and the shoes have rubber heels. "It is better to be neat than picturesque."

Manners.—Manners have been called "Surface Christianity." They certainly are the key to success in the profession of a nurse. Be dignified; but, in avoiding a childish demeanor, do not fall into the mistake of appear-

ing solemn or melancholy. Do not permit familiarity from a patient, or from other nurses while on duty ; but, while preserving dignity, do not fail to be sympathetic. A sufferer requires immense self-control (more than you can realize unless you have been very ill) to keep from open complaint. Do not err in underestimating distress. With nervous and hysterical patients you must, however, not be misled into overestimating the trouble.

Bear in mind that your patient is not in need of a confidant but of a nurse, and guard against officiousness or intrusion into the affairs of those intrusted to your charge.

Orders should be received only from a superior officer or the physician, but there is no occasion for rudeness in regard to a patient's suggestions ; they may prove of value and should be pleasantly received.

Show that you understand your work and it will be unnecessary to announce the fact. Be quick, alert, open-eyed and light-footed. Use your eyes and guard your lips. Be sure that you know beforehand what is to be done, then do it with the fewest possible steps consistent with thoroughness. In a sick room all hurry and bustle are painful ; move quietly ; avoid knocking the furniture ; listen attentively, and speak little. Never sit or lean on a patient's bed. *Hospital etiquette* requires that you stand with hands behind your back while speaking with superiors in the ward or office.

You owe it as a duty to yourself as well as to your officers to give all the time that you can economize for the purpose, to your studies. Skimming over a lesson just before you enter a class-room will not give you information beyond the class hour.

You are advised to consult your reference library on the special diseases under your care during your hospital course. Learn to know the symptoms in various

cases and try to understand the expected action of the remedies used.

Accustom yourself to studying in the open air when weather permits. There are always piazzas and often pleasant grounds connected with your dormitory. Keep your lungs in good condition by chest exercises, and long, deep breathing in the open air, with shoulders thrown back, several times a day. *Sleep with your window open.*

TO FELLOW-NURSES.

Your first duty to your head-nurse is obedience; your second, loyalty. All orders are to be obeyed by you thoroughly and promptly.

Report anything unusual in the ward routine or in regard to patients to the head-nurse, who should know everything that takes place in the ward while she is present or absent. Report breakages at once. Notify the nurse in charge when coming on duty or leaving the ward.

Avoid criticism of the actions or orders of your superiors. You cannot know all the reasons for another's course of action and therefore cannot judge it. You have come to the hospital to be taught; do not sulk when reproved. It is impossible to be perfect, but be sure you give no opportunity for a second reproof for the same offence.

To your fellow-nurses be helpful but not officious. They have their work to do and you yours; do not interfere unless told to do so by the head-nurse. Shielding a nurse at the expense of the School and the patients, injures not only them but your profession.

When you first enter a ward learn what duties are to be yours and do these things every day unless your orders are changed. If your own work has been finished to the

best of your ability, ask for more. It is the greatest comfort to a head-nurse to have those under her dependable. If your work is always well done you will find more and more responsibility placed upon your shoulders, and this is the greatest honor that you can receive.

TO OFFICERS OF THE SCHOOL AND HOSPITAL.

To officers you owe not only obedience but the greatest courtesy. When they enter the ward, meet them at the door and acquaint the head-nurse, or the person whom they are seeking, of their presence. Do not leave them unattended unless obliged to do so or they excuse you. Be ready to answer all their questions when possible.

TO THE DOCTOR.

When a physician or surgeon enters the ward to make rounds, do dressings or give treatment, go to him immediately if you are in charge of the ward. If the head-nurse or her representative be present, inform her of the doctor's arrival so that the proper attention may be paid him as soon as possible. In making rounds with a doctor, carry the prescription book, several towels over the arm and a box of sterile vaselin. Follow him closely down the ward, stand on the side of the bed opposite him, and hand him the patient's chart, opened. Before leaving the bed, hang up the chart. Answer questions briefly, accurately and respectfully. Do not *guess* at anything. If you cannot answer, say so, but remember that you are responsible for what you *should* know. If the doctor washes his hands at the bedside, pour the water for him and offer him an opened towel.

When the attending physician or surgeon enters the ward the doors must be closed and be kept closed with

the card hung out upon them. While rounds are being made every patient should be in his bed, or beside it, and every nurse on the alert.

If a surgeon has sent word that he is coming to give a treatment or do a dressing, have everything in readiness before he begins and anticipate his wants as he proceeds.

TO THE PATIENT.

It is your duty in the ward to meet all needs of your patients, and to gratify every legitimate desire.

All treatments and medicines are to be given promptly. Never slight any patient; give full measure of time and effort to all alike. The more stupid your patient or the more deeply unconscious, the greater his claim upon you. Answer his call for aid quickly; you may thus prevent serious trouble and will, in any case, greatly reduce friction in your ward.

As you go about your work watch the sickest patients constantly; note any changes in their condition. They may lie quietly for hours because too ill to make a motion to attract the nurse's attention.

Sick persons should never be spoken to suddenly, from behind, or from a distance. In talking with them, stand where they can see you without turning the head; listen attentively and do not interrupt.

Never leave a patient in suspense if it can be avoided. The expectation of evil is often harder to bear than actual pain.

The daily ward toilet.

General baths whether in bed or in the bathroom will be given as ordered and according to directions in the chapter on bathing. In addition to this the face and hands should be bathed before breakfast and the teeth of the

patient washed daily with a soft cloth or his own brush. When the mouth is dry or mucus is being raised, or if sordes collect on the teeth or tongue, it is absolutely necessary to cleanse the mouth before and after every feeding. If a swab or cloth is used for this, never return it to the wash used; this should be poured over the swab or a fresh one be used. Hydrogen-peroxide, one part to four parts of water, is a good wash for this purpose. The mouth should be rinsed afterwards with cool water or listerine wash. Do not overlook the *details* of your patient's appearance. The sicker the patient, the more scrupulous should be the care given him, his bed, his clothing, and surroundings. See that nails and hands and feet and ears are clean. Keep a woman's hair neatly braided in two braids. Frequent sponging of the face with cool water is refreshing. Patients are each to have a towel for the toilet only, to be changed frequently. Never make use of it over the sheet at meal-time.

Feeding ward patients.

It is proper that a *nurse* and not a servant should superintend the serving of meals to all able to go to the dining-room. She should know that the plates are warmed, and the meals hot and properly cooked, and should report to the head-nurse any failure in these particulars. She should have the children's food cut up for them, and notice and report any patient who seems in need of other than the house diet. She should be assisted by a servant, but remain herself on duty till all are served.

Bed patients

before being served should be propped up, and their shoulders protected; they should have water to rinse the mouth; and a clean towel over the sheet. Children's bibs

should be fastened; the trays neatly prepared; and all that is needed brought at one time. Do not keep a feeble person waiting for his tea, while you run back and forth for sugar or teaspoon forgotten.

Tea and coffee should never be sweetened in the dining-room—bring it hot and carry the sugar-bowl, covered, to the different beds. Some persons dislike sugar, and others want more than they get.

Notice the appetites and report to the head-nurse of the ward when necessary.

Protect the hospital from extravagant use of material. Large amounts of money are wasted by nurses who carelessly go on day after day carrying overloaded plates to patients (simply because the articles are on the diet-list for the day), when it is known that they will not be eaten.

Do not bring a meal to a patient when anything disagreeable is happening at an adjoining bed; keep the food warm for a few moments.

When meals are over take away the trays promptly, and see that no crumbs are left on the table or bed.

Protect your patient.

There are many ways in which you can protect your patient from annoyances. Above all things *use the bed-screens* and avoid all unnecessary exposure even behind them. Shut off in this way also painful sights which would disturb others, and never allow a curious patient or visitor to look behind the screens.

Do not give patients any discouraging information about themselves nor allow them or any visitors to read the charts. Do not show by word or look that there is cause for anxiety.

Convalescent patients are particularly difficult and try-

ing to care for, on account of their restlessness. Small attentions to them are fully appreciated. Bear such patients in mind; help them to make as early a toilet as they may wish; move their chairs to sunny spots in the ward or near a window. Always protect their shoulders, and their ankles from draughts along the floor.

Give a book, change the bed-rest, shake up pillows, or *offer a drink of water*. Very feeble persons and young children often suffer silently from thirst.

Never show partiality, whatever your private feelings may be. It often promotes a jealous feverishness which is harmful.

Visitors.

It should be your pleasure to meet new visitors when they enter a ward, accompanying them to the bed, or at least pointing out the one they are seeking. Place a chair beside the bed facing the patient.

Except officials, or those accompanied by officials, no one is admitted to the ward without a ticket, and visitors coming without cards must return to the office to procure them.

Carefully watch the very sick when friends call, and allow no home worries to be talked of. Shorten the visit politely if the patient seems fatigued, and see that no food is given. The nurse should take charge of it and keep it, marked, and in the pantry.

Night nurses.

A night nurse is expected to be on duty twenty minutes before eight. This gives her time to read over the night orders with the head nurse and find out about new patients.

If the doctors make rounds after eight o'clock, the

night nurse is expected to accompany them. She has for her adviser the night superintendent, to whom she will report all difficulties and from whom she will receive aid in doing extra dressings or giving treatments, and when a patient dies.

All notifications to house doctors go through the superintendent except in case of an emergency, when they must be called at once. The superintendent must be notified as soon as possible.

All deficiencies in medicines or supplies are to be reported to her, as no nurse leaves her ward if it can possibly be avoided. In case of a death, notify the night superintendent immediately.

Before reporting restless or suffering patients to either superintendent or doctor, make every effort to overcome their distress by the means within your power. Hot-water bags and a warm drink may be all that is needed.

Do not wake patients for medicine unless ordered so to do by the doctor.

All calls should be answered as soon as possible.

Teach your patients to call you in a low voice, but remember that if you do not respond promptly it will not be surprising if they become noisy.

Hammering on tables, loud talking, or laughing, are not to be tolerated in wards or their adjuncts.

Do not keep any one waiting for a bedpan. To do so is cruel.

If dressings must be done, move the surgical carriage as quietly as possible, and do not light up more than is necessary.

Be generous with hot-water bags and hot milk during the early hours of the night; such small attentions will often secure a good night's rest for the entire ward. It is a fact that it is harder to get to sleep again when

awakened after a few minutes' sleep than when several hours of sleep have been secured, so do not disturb a patient who has just fallen asleep.

Night nurses must never leave a medicine cabinet open or unlocked. Opiates and stimulants must be out of reach of all patients.

If a patient falls out of bed, report this fact and mention it in your night report; also state where you were at the time.

It is while you are on night duty that you are making your reputation for trustworthiness and reliability. Your patients, who have several to appeal to during the day, must depend entirely upon you at night.

A nurse's time belongs to her patient; never entertain callers or visit other wards; it is not honest.

Go through the ward every half hour at least, passing down one side and up the other.

If you can spare the time, sit beside patients dangerously ill.

When new patients are brought into the ward at night, they, as a rule, require considerable attention. Do all that is necessary, but disturb others as little as possible. Whispered consultations, hurrying back and forth, and slamming doors will soon arouse the entire ward and lead to endless trouble.

The clothes of each new patient must be listed and money and valuables handed to the night superintendent.

The early morning hours before daybreak are the hours when vitality runs low; an extra blanket or a cup of warm milk at this time means much to a weak person.

Each night nurse should so plan her work that it will be accomplished before the day nurses enter the ward;

but even if the work be not finished, the night nurse must go to breakfast promptly and return to the ward afterwards.

When the head-nurse of the ward comes on duty, the night report is to be read to her. This report must be given in detail, the condition of the sickest patients fully written out and the sleep recorded. All medicines given, with their numbers, the dose and times given, must be entered, and if doses are omitted, the reasons for the omission stated. All changes ordered in treatment or medicines must be noted, together with a full account of any admissions or deaths occurring during the night.

Before leaving the ward look over every chart, so that it may be in perfect condition and up to date.

Attend to the details of your work; have all faces and hands washed, and for the beds of those who are up, the clothes airing, and the mattress turned back.

Leave medicine tray and glasses spotless and in place; all utensils used during the night are to be left clean and hanging in place. The lavatory must be left in order and all specimens saved through the night must be properly labelled with name and hour, and taken to the laboratory for examination.

During the night the ventilation of the ward depends upon the night nurse; keep the ward free of odors. Some patients seem to think night air poisonous. "It is all the air we have," and sick people should have it in abundance, without draught.

In regard to her own health, the night nurse must take special care. The digestion is easily deranged by this unusual life. Something hot should be taken into the stomach about midnight and again coffee or milk in the early morning, as this will overcome the dizzy, sick feeling many nurses experience at this time. Night nurses

are expected to arrive and to leave promptly, and to be in bed eight hours out of the twenty-four, as a rule.

Admission of new patients.

When a new patient enters the ward, go to him at once. There is nothing so trying or forlorn as sitting alone and unnoticed in a strange place and among strange faces. Almost every one has a dread of a hospital; try to make the first impressions pleasant since they are so lasting. To you the entrance of a new patient is but a detail of the day's work; to the one entering it is probably the event of a lifetime.

The kind of bath to be given will be specified on the admittance card, and it is generally to be given before the doctor can examine the new-comer, and as directed in the chapter on baths.

If a tub bath is to be taken, an orderly or nurse gives it. It is never safe to leave a new patient to take a bath alone. You know nothing of his condition.

Should the patient be a surgical or "accident case," remove the clothing from the well side first, ripping seams if necessary; work without hurry and do not destroy clothing uselessly.

A bed bath will probably be ordered in such cases; protect your bed. A little ammonia may be needed, soap and water and a brush for the feet.

Wash one part of the body at a time, drying each as you finish with it and rubbing with alcohol. The face, ears, and neck are bathed first, then the chest, arms, trunk, lower limbs, and back, in the order named. Finally place your tub on the bed and put the patient's feet directly into the water; they are cleansed more easily in this way. Bathe under the blanket as much as possible. A skilful nurse can do this easily. Change the water several times.

Do not fail to give proper attention to the nails of hands and feet. Wash out the mouth. Comb the hair, protecting the bed. If a woman's hair is badly tangled separate it into locks with the fingers (do not use a comb), and smooth only part at one time. The process is too fatiguing to be long continued, if the hair is thick.

After the well-aired and warmed gown has been put on and the patient covered, give a drink of milk, or water if it is desired.

In putting on both vest and gown, slip one inside the other so that one effort only is needed in slipping them over the shoulders; they should be ripped down the back for certain cases.

When vermin are found in the hair, roll a towel snugly about the head until the proper application can be made. There will be a prescription for this ready in the ward. After applying it keep the towel round the head for a day, and if necessary make a second application; after this the hair should be washed with soap and water and well dried. For body vermin there are also special applications. Ask for instructions, and always be on the watch for such things with new patients. *Careful inspection must be given to the clothing* worn by the patient on his arrival, and if there be any reason to suspect vermin, the clothes, after being labelled and listed, should be put in a sheet with the list and left standing for twelve hours, by which time the vermin, if present, will be seen on the sheet. Blankets or pillows coming with the patient are treated in the same manner. Soiled clothes go to the laundry with list. Money and valuables are to be taken at once to the office and given to the superintendent or his assistant. The nurse admitting the patient by day or night is responsible for what is brought in, until it is

properly disposed of. Every article must be named in the clothes-book, together with the patient's name and the date of admittance.

Do not let a new patient go to the toilet-room except by a doctor's permission. The first urine should be saved for a laboratory specimen.

Vomitus should be kept for the doctor to see.

Patients transferred.

When a patient is transferred to another ward all his medicines and his chart go with him. His clothes, with the list, are taken to his new ward and the clothes-book is there signed by the nurse receiving the articles, after she has compared them with the list.

Patients discharged.

Notify the office when a patient is about to leave, and send a nurse or orderly to the office with him. Make sure that a poor patient has a car-fare, if he is alone and feeble. The patient's dismissal card is taken to the office at the same time. Before leaving the ward he must sign the clothes-book, signifying that all clothes brought have been returned to him.

Dying patients.

A dying patient should, if possible, be removed from the ward, for his own sake as well as for that of the other occupants. Make every effort to have a nurse sit by the bed of the dying person. Never ask another patient to do this.

Even if unconscious, there are numberless things to do for the dying one. Moisten the lips frequently. Wipe away the sweat gathering on face and hands. Keep the

feet as warm as possible. Fan the forehead. Allow the friends of the patient to do anything that can add to his comfort. If there is nothing that you can do, find out whether the family would like to be left alone with him.

The doctor must be notified immediately when death occurs.

In laying out the body, be gentle and unfailingly respectful in the fulfilment of these last duties towards your patient. The head should be kept elevated and the arms crossed high on the chest. Bathe the body, arrange the hair, and carefully attend to all details. Pack the orifices with absorbent cotton. Wrap up all the patient's possessions and take them to the office for his friends. The body should be clothed in night-gown and drawers and covered, face and all, with a sheet and the patient's name attached to it.

The mattress and pillows must be baked or renewed, and the bedstead and stand disinfected with carbolic acid solution.

The patient's chart is to be taken down and all his medicines sent to the dispensary with the label crossed off.

WARD DUTIES.

Cleaning.

Almost the first work allotted a probationer is cleaning of the ward wood-work, furniture, and utensils. For the wood-work of the ward and adjoining rooms use soap and water, then rub dry. Kerosene will brighten wood-work, zinc, and marble, but must be used only when windows can be opened. Do not leave surfaces oily. Pay special attention to the window-sills. Bedsteads, tables, and other enameled or glass surfaces need careful washing with

soap and water. Never use sand soap, Sapolio, or any rough substance on white enamelled tubs or marble; they ruin the gloss and leave a roughened surface, where dirt lodges. Whiting cleans marble if well rubbed in, also windows if applied with soap and water and allowed to dry. Rub off afterwards with a dry cloth.

If it is part of your duty to sweep the ward, or to direct a ward maid, never begin at one end and sweep all the litter the whole length of the room. Use a hair broom, move it very gently, and sweep from the wall towards the middle of the ward, and take up the dust in a pan as you go. It is far safer never to sweep a ward; the process simply distributes germs. A large flannel cloth wrung out in warm water and pushed about by a common straw broom is the safest and cleanest thing to use. A little disinfectant—according to a physician's order—added to the pail of warm water should be used. Change the water several times during the process; never use a mop, it is always unclean. The flannel cloth can easily be washed and aired.

Bath-room, lavatory, and closets.

It is the nurse's duty to see that all these adjuncts to the ward are clean and in order, and all utensils kept in their proper places. Dirty towels and scraps of paper are not to be allowed about. All soiled dressings are to be put in the dressing-can and the *cover put on*. These cans are not intended for withered flowers and other ward litter. It is a disgrace to a nurse when from these cans tufts of cotton or bits of gauze, etc., find their way to the floor.

Saucepans, fish-kettles, funnels, and all enamel and crockery-ware in use in lavatory, bath, or toilet-room, should be cleaned immediately by the nurse who has used

them. Bedpans and urinals must be also disinfected with bichloride of mercury, 1 : 1000.

Bed rubbers and dressing rubbers are to be washed with ammonia and water followed by five per cent. carbolic acid solution and hung up to dry. Never fold these.

Rubber rings should be washed with soap and water, carbolized, and partly blown up before putting away.

Ice-caps need to be turned inside out, wiped, and left to air and dry. When put away, partly fill them with air.

Rubber catheters, rectal tubes, and such appliances should be thoroughly cleansed inside and out with soap and hot water, then rinsed and boiled for five minutes. Never put them in the saucepan until the water in it is boiling. Too much boiling will spoil them. Keep them in five per cent. carbolic solution. Oil destroys rubber and should be removed from it as soon as possible.

Hard rubber syringes are to be thoroughly washed, dried, and put together. These and hypodermic syringes should be tested *every morning* to see that they are in order and ready for an emergency.

Sputa-cups are now frequently made of paper and burned after use. If of china, glass, or metal, they must be scrupulously clean and contain at *all times* a little of the five per cent. carbolic acid solution. They must never be left until they are full; empty them often, clean and disinfect them outside and in. Handle them with great care; carry them in a paper; never allow your fingers to become moist with them; never touch your hands to your face when so engaged; wash your hands in a disinfectant immediately. Keep the cup as far from your face as possible and shut your mouth. Sputa from tuberculosis, pneumonia, grippe, and all diseases in which the lungs and air passages are involved, should be treated as dangerous.

Clothing for the laundry.

The listing of the soiled clothes of the ward is to be done by the probationer, or youngest nurse in the ward, directly after her breakfast and outside the ward; on the piazza if possible, or where a window can be open. Accuracy should be observed in making out the two lists, one of which is kept in the ward on file, while the other is sent to the laundry with the clothes. The nurse *must always wash her hands* after doing this work.

Soiled clothing and bedding are to be kept in hampers, entirely apart from the ward or from the linen-closet. All soiled clothing is to be quickly rolled up (never shaken about) and taken promptly from the ward.

Policing.

Every nurse in the ward should form the habit of "policing" the ward every few hours. Take a bird's-eye view of it. Stand in the doorway and see what effect the ward would present to a stranger entering. Are the beds in line? Are the tables in line, unencumbered, clean, and dry? Are the chart covers clean? Is there dust under the beds? Are the window blinds uniform in arrangement? The wheel-chairs, if not in use, should be in the middle of the ward. Empty beds soon gather dust. See that those in the ward are clean and fresh.

Bedside tables soon become overcrowded,—a book, a little fruit, or fresh flowers are the only articles that may be left on the table. A small box for toilet articles may occupy the shelf below.

When fruit is being eaten, a dish for the skins should be provided and removed as soon as it has served its purpose. *Never* allow dirty-looking water to stand in flower vases.

No clothes should be in sight about the beds. There is nothing more untidy or surgically unclean than a fringe of shawls, dressing jackets, and so forth, hanging about a bed. Nor should clothes be left on wheel-chairs or other chairs even at night. They must be put away in the closet boxes. Slippers are permissible, and a wrap.

The linen closet reflects the mind of the nurse in charge of it. Clean shelves, piles of linen arranged with mathematical precision, tidy drawers and an unencumbered floor make the linen closet one of the show places of a ward. In using linen put each article to its legitimate use only. Screen covers are not draw-sheets and pillow-cases are intended only to cover pillows.

The clothes closet should be an illustration of the maxim, "A place for everything and everything in its place." Every article brought by a patient must be labelled with the name of the owner, the clothes folded and put together with the list, the hat, coat, or dress hung up, and boxes or satchels carefully arranged. See that your list is complete; a tie or collar may seem of little worth, but you will be amazed at the value attached to it, if it be lost.

Never borrow any article from another ward if you can avoid so doing, and remember that the nurse who borrows an article is responsible for its return.

Ventilation.

The sources of contamination in a hospital ward are the secretions from the bowels and kidneys, perspiration, discharges from wounds, the breath, and sputa of patients, etc., etc. No amount of care is too great to counteract the bad effects from these causes. Police your ward with your nose as well as with your eyes. Go out into the hall or to the piazza half a dozen times a day and notice

whether the air of the room seems impure on your return. Lower windows on either side of the ward, but never over a bed in which there is a patient. If all beds are full, try end-to-end ventilation. Generally there are windows at one end of a ward and a hall at least at the other, in which windows can be opened. On bright days many a patient would be refreshed by having the window near his bed raised at the bottom, care being taken that the man in the next bed is not injured by this. Fresh air must be had in some way by day and by night.

Bed-making.

The mattress must be even, free from lumps or hollows. The nurse must fill it in with cushions and pillows where the conditions are not satisfactory. Where there is likely to be a long, trying illness, or where there are discharging wounds, etc., etc., protect the mattress with a *large* rubber sheet securely fastened at the four corners with safety pins.

Do not use this sheet unless absolutely necessary, for rubber cloth promotes perspiration and weakens the patient too much. Ordinarily begin your bed-making with the under sheet well tucked in all round; over this a rubber cloth wide enough to extend from the lower edge of the pillow down under the buttocks, allowing a little for the patient's sliding down; tuck this in very firmly and pin it at the four corners to the mattress. Dispense with the rubber cloth as soon as possible. Over this put a draw-sheet, which is simply an ordinary sheet folded once in its *length* and covering the rubber completely. Tuck this in well under the mattress on either side of the bed; no wrinkles or seams are to be allowed anywhere. The use of the draw-sheet and rubber is for speedy and repeated changing. They are easily folded

together and removed and a fresh set applied at the same time. Two light blankets are better than one heavy one. Heavy counterpanes are fatiguing to the patient. Cover the blanket with a fresh sheet to keep it from being soiled.

How to change the bedclothes.

The clean under sheet must first be warmed and aired, then half of it should be folded up small and flat through its whole length; lay this folded part next and close to the patient, pushing before it the soiled under sheet folded in the same way. Press down the mattress close by the patient and gently work the two folds, the soiled and the clean one, under the back and shoulders; the head and feet can be slightly raised to allow the folds to pass; this done, you have only to pull the sheet smooth and tuck it in. Change the pillows, and alternate them several times a day; slip a cool fresh one under the patient's head and take the warm one away.

How to change the upper sheet.

Air and warm the sheet and then fold it in its width. Pass it under the sheet which you are to change, commencing at the foot of the bed and bringing it up as smoothly as possible, unrolling it as you move it up. When it is well over your patient, draw down the soiled sheet and remove it at the foot of the bed. In this way you do not remove any of the blankets, and so avoid chilling the patient.

How to change the mattress.

Have a fresh mattress covered with a clean sheet tightly fastened at the four corners. Push the mattress to be changed half off and the fresh one half on. Gently turn the patient on to the fresh half, pull off mattress No. 1 and draw the fresh one across the bedstead,

Fracture beds and *water* beds are used as physicians may order. In filling a water bed put the opening towards the foot and use a funnel for filling. Water cools easily and should be used for filling at a temperature of 100° F. Have the bed exactly in place before filling; it will be too heavy to move afterwards. Take care that no pin or sharp point punctures a water or air bed.

Do not be extravagant in the use of hospital supplies of any sort, but if possible every ward should have a few extra mattresses so that during the week every mattress in the room should in turn have a chance to be aired and sunned out of doors. Airing in the ward is of no value, and may even be an injury to patients.

Make the beds down one side of the ward first. Soiled clothes taken from one bed are to be put in the clothes-basket before the nurse goes on to others.

Pillows should support the shoulders and give the lungs full play; a *small* one just under the head in addition is necessary for comfort. In propping up a patient support the nape of the neck; do not push the chin forward. Consult the wishes of the patient in arranging pillows. Put one low down in the small of the back if acceptable. Begin with that, and put the others one behind another; this keeps them from slipping.

Various kinds of *supports and pillows* of the desired shape can be made by folding a sheet in different ways. They can be used here and there for the comfort of the patient as he lies in bed or is turned or raised, and they can easily be unrolled and washed.

Directions for giving medicines.

Medicines must be given promptly, at the specified time, accurately measured, and immediately charted.

1. The name of patient and ward, the name and number

of the medicine on the bottle, must correspond with the prescription book. For the dose, follow the book.

2. Always compare the label on the bottle with the order in the book, both before and after pouring out the medicine.

3. Always keep the label up in pouring medicine, and wipe the top of the bottle after using.

4. Always catch the last drop from the bottle on the edge of the glass. In dropping, *that* drop counts as one. When single-drop doses of any kind of liquid medicine are required at short intervals, drop ten to twelve drops in a glass and add ten to twelve teaspoons of water, and avoid the chance of dropping an overdose each time. Volatile doses must be dropped as needed.

5. Wash and dry the bottle before returning it to the cabinet, being careful not to wet the label.

6. No medicine, either for external or internal use, is to be left with the patients or on the stands.

7. Patients are not to take the medicine from the tray; it must be given to them, and the nurse is to see it taken, and must at once wash the glass or spoon.

8. Nurses are not to give one patient medicine, even of the same kind, from another patient's box or bottle, unless ordered by the doctor in case of emergency.

9. Two medicines are never to be given at the same time unless the doctor so orders; neither are two medicines to be mixed together in any one glass unless the doctor sanctions it. In dropping medicine from a medicine-dropper, use one which has been freshly cleaned.

10. No opiate is to be given except under explicit directions from the physician.

11. When a head-nurse has been absent from the ward at the time of a physician's rounds, she is always to look in the prescription-book before giving the next medicines,

and any nurse left in charge of the ward during her absence is to inform her if in that time the physician's visit has been made.

Under no circumstances whatever are medicines to be left standing in glasses ; if not used they must be returned to the bottle or thrown away, and this rule is to be also observed with fluids used hypodermically.

12. The nurse, while giving medicines, must neither talk nor allow any one to talk to her.

13. Should a nurse make a mistake in giving medicines, she must report at once to the doctor in charge of the patient, and to the superintendent of nursing.

14. Medicine cabinets are to be kept locked and the keys in the nurse's possession. She is responsible for the safety and perfect cleanliness of the shelves and all that they contain.

15. Fluids used for bathing or rubbing,—alcohol, ether, benzine, turpentine, liniments, etc., etc.,—which may need warming before use must be put in a loosely corked bottle and stood in a vessel of very hot water, *remote from any gas-light, fire, lamp, or candle*. No possible emergency can excuse the carelessness of warming such fluids in water over a light.

16. Put the cork in tight after using a medicine, or exposure to the air may make it useless.

17. If pills cannot be swallowed, mash them and give in water or syrups ; give powders in the same way.

18. If a child or delirious patient refuses medicines, gently but firmly hold the nose ; the mouth must be opened for breathing, when the spoon can be put far back in the mouth and emptied slowly.

Different colored labels are generally used for medicines for *external* or *internal* use.

Suppositories are made of cocoa-butter and drugs,

conical in shape for their convenient introduction into the rectum, the vagina, or urethra. The suppository is inserted and pushed well up into the rectum until it cannot be felt by the finger; a towel is applied and pressed against the anus. The patient lies upon her side with the knees slightly drawn up, and is told to bear down.

Medicines injurious to the teeth, such as iron, should be given well diluted, with a glass tube. Each patient who uses a tube should have one for his exclusive use, marked with his bed number. Iron is more palatable given in milk.

If medicines appear to a nurse to be producing any marked symptoms, such as vomiting, diarrhoea, pain, headache, drowsiness, or convulsive movements, the matter should be at once reported to the house physician, even though his directions have been carefully carried out. Some persons are far more susceptible to opiates, etc., than are others.

All orders must be written in the ward-book. Hand it to the doctor, and if you do not understand directions, ask for them before he leaves the ward. Changes in medicines must be noted in the book and *on the chart*.

Medicine trays and glasses should be spotless. In washing use hot water and soap and a dry towel. Leave your glasses dry. Glasses used for cod-liver oil, or any medicine with an offensive odor, should be marked and carefully boiled before using for any other purpose.

There should be a spoon on every tray for giving tablets; these should never be given a patient from a nurse's fingers. A spoon which touches the mouth must be washed at once. Always give a drink of water before and after medicines. It is often difficult to swallow with a dry throat.

SOME COMMON MEDICINES AND THEIR EFFECTS.

Iron (Ferrum) is given to improve the condition of the blood, the appetite, and digestion; as an astringent and a hæmostatic. Iron exists normally in the red blood corpuscles. If these are deficient in certain diseases, a course of iron secures their increase, improves the quality of the blood, the tissues are better nourished, and all the functions of the body are better performed.

If given too long, iron will disorder the digestion.

Over-dosing causes nausea and vomiting.

Iron is eliminated by the fæces (which it colors black), the bile, and the urine.

Mercury (Hydrargyrum), in minute doses in certain diseases, increases the number of red blood corpuscles and improves nutrition. In small and repeated doses it stimulates the secretions of the body and promotes absorption.

In large doses, or if long continued, the secretions are much increased, the gums are swollen and tender, the mouth sore, the teeth feel elongated, salivation occurs, the breath becomes offensive, and a metallic taste is experienced.

The *symptoms of corrosive sublimate* (a salt of mercury) *poisoning* are vomiting and purging, bloody stools, and abdominal pain.

Cod-liver oil (Oleum morrhuæ) is a food rather than a medicine. It is used for its nutrient effect in chronic wasting diseases, applied externally or taken internally. In either case it is readily absorbed. In suitable doses it improves the appetite and digestion. In large doses, especially in very hot weather, it causes nausea and diarrhœa.

Salol.—A white, slightly aromatic, nearly tasteless powder, insoluble in water. In large doses it reduces febrile temperature and produces sweating. The respira-

tions become more frequent and there is sometimes ringing in the ears. It is eliminated in the urine, which becomes darker in color.

Opium is a hypnotic, inducing sleep. It is also an anodyne, tending to relieve pain by lessening the excitability of the nerves and nerve centres.

In moderate doses its action is constipating. A moderate dose at first stimulates slightly, then calms, and finally, as the cerebral functions are depressed, consciousness becomes lost in sleep, which is often disturbed by dreams. Respiration grows slower and the secretions are all diminished, except that of the skin, which is increased.

The *symptoms of over-dosing* and poisoning are: overpowering drowsiness, passing into stupor, contraction of the pupils, dryness of the mouth and throat, full, regular respirations, diminishing in frequency. As the poison works, the coma deepens, the breathing becomes stertorous, the patient is cyanosed, and death follows.

Chloral is generally administered in an aqueous solution. It is applied externally to relieve pain and internally as a hypnotic. Chloral must be given with great care, as the chloral habit is soon formed. It is a heart depressant. In medicinal doses it causes quiet, natural sleep, contraction of the pupils, and deep, regular breathing. *Over-dosing* is shown by a deeper sleep, which may pass into coma, the respirations are slower and the temperature falls. Those who have formed the chloral habit show an anæmic condition, weak, irregular pulse, irritable temper, and little self-control.

Bromides.—The bromides, of which the most commonly used are potassium and sodium bromide, are depressants to the nerve centres of the brain and spinal cord, when given internally. For this reason they are given in

great quantities in epilepsy. Most bromides, even in medicinal doses, act as depressants to the circulation. *In over-doses* they impair the vital functions and cause a rash to break out over the skin.

Digitalis.—The tincture and infusion of digitalis are usually given as heart tonics. Given in moderate doses they make the heart beat slower and stronger. In large doses, or when given for a long time, they may cause nausea and vomiting, the pulse becomes weak and rapid. *Over-dosing* gives the same symptoms much exaggerated, with dizziness, muscular twitching, low temperature, delirium or stupor. Death may take place from cardiac paralysis.

Strychnia is an alkaloid of nux-vomica, and the two produce the same effect on the system. In small doses it increases the appetite and the digestion. It increases the sensibility of the nerves of special sense and acts as a heart stimulant. *Over-dosing* causes great discomfort, restlessness, muscular twitching, and finally convulsions. It is eliminated, unchanged, in the urine.

Persons differ in their susceptibility to poisons. Notice the effect of the first few doses, and report suspicious symptoms. Some poisons are cumulative, and only show their bad effect after long use.

MEASURES.

Apothecary's Weight.

- 20 grains = 1 scruple.
 60 grains = 3 scruples = 1 drachm.
 480 grains = 24 scruples = 8 drachms = 1 ounce.

Apothecary's Measure.

- 60 minims = 1 fluid drachm.
 8 fluid drachms = 1 ounce.
 16 ounces = 1 pint.
 2 pints = 1 quart.
 8 pints or 4 quarts = 1 gallon.

Wine Measure Signs.

m.,	Minim.	
℥,	Drachma,	drachm.
℥,	Uncia,	ounce.
O,	Octarius,	pint.
C,	Congius,	gallon.

Fluid or Wine Measure.

m. lx.	=	℥ i.
℥ viii	=	℥ i.
℥ xvi	=	Oi.
O viii	=	Ci.

Troy or Apothecary's Weight.

gr.,	grain,	granum.
℥,	scruple,	scrupulum.
℥,	drachm,	drachma.
℥,	ounce,	uncia.
lb.,	pound,	libra.

Table.

gr. xx	=	℥ i.
℥ iii	=	℥ i.
℥ viii	=	℥ i.
℥ xii	=	℥ i lb.

A *coffeespoon* equals about one-half drachm.

A *teaspoon* should hold about one drachm.

A *tablespoon* should hold about half an ounce.

Oils and syrups may be measured in spoons.

A *minim* is always a definite quantity.

A *drop varies* according to the liquid dropped, and the vessel from which it is dropped.

Metric System.

gramme (gm.)	=	1 c.c.
1 gramme	=	a little over 15 gr.
℥ i	=	30 c.c. approximately.
℥ ss	=	15 c.c. “
℥ i	=	4 c.c. “
℥ ss	=	2 c.c. “
15 m	=	1 c.c. “
1 litre	=	2 pints.

CHAPTER II.

NURSING IN PRIVATE FAMILIES.

THE NURSE; THE ROOM; THE PATIENT.

THE NURSE.

A responsible person necessary.

IN all cases of serious illness, whether a trained nurse can be secured or not, there must always be some one person in the family who can be responsible for the patient and to the physician. Two or three different persons taking orders and reporting symptoms will invariably make confusion and mistakes. There must be one head. Many of the directions for a professional nurse will apply with equal force to the member of the family who stands in that relation to the patient. Want of order and common sense in a sister, wife, or daughter is even more distressing to a sick person than the same qualities in a stranger. Let whoever proposes to assume the care of a seriously sick patient read and follow the directions given to the professional nurse.

A really conscientious nurse will deal as kindly and faithfully by her poor and hospital patients as if caring for the sick in the pleasantest homes; but there are in private houses certain differences of arrangements and requirements not known in hospitals, and these must be understood.

The nurse is ordinarily called to a private family when the family are worn out and need immediate relief; for this reason she cannot expect to begin with a night's rest,

though she may arrive tired with a long journey; the family are exhausted with anxiety, and she must shoulder the burden which they are too wearied to carry a moment longer. She must, therefore, at once take her official position, *not waiting to be told what to do*; but realizing that a life is intrusted to her keeping and that she alone is responsible to the physician.

What should be done before entering the patient's room.

The bonnet and outside garment should be removed. Never allow any one to enter the room of a very sick patient with the bonnet on. Arrange your dress for work; inform yourself where towels and clean linen are kept, where to put soiled clothing, and where to empty and wash vessels.

The best way to greet your patient on seeing him for the first time.

On entering the room for the first time a pleasant look or bow is sufficient. The first service skilfully rendered will make you acquainted with your patient. Do not sit where he will be obliged to see you, and do not appear to watch him, though you must observe him constantly.

What will aid in making a nurse personally acceptable.

A simple and perfectly neat dress, and great care in frequently changing or airing the clothing. A few drops of hartshorn in the water used for washing will remove disagreeable odors from warmth and perspiration. A daily bath is easily accomplished with simply a basin and towel in the following manner: wring out a rough cloth in soap and water, and rub yourself briskly from head to foot,—five minutes will suffice each day, and help in keeping you healthy, fresh, and pleasant to look at. Keep two sets of undervests in use, one always airing; air, and

change dress-shields frequently and now and then put your slippers in the sun and air.

Do not use a tooth-pick, or arrange hair-pins before your patient. Never kiss your patient. Many persons dislike to be kissed, even by intimate friends, and would endeavor to conceal the annoyance which was unconsciously inflicted.

How the hands can be kept in order.

A few drops of glycerin rubbed in at night will keep the hands smooth if care be taken to wipe them perfectly dry each time that they are put in water; hot water is thought better than warm or cold for the hands. Cultivate a light touch. A sensitive patient is often disturbed even by the weight of the hand, or by moist, clammy hands. Never clean or pare the nails in the presence of any one, though they must be kept scrupulously clean.

How you should conduct yourself towards the servants of the family.

You should be careful not to cause them unnecessary trouble; acknowledge pleasantly any little service rendered, and let them feel as far as possible that you have come to share, not to increase the extra work that sickness always brings. Wash and return to their places the cups, plates, spoons, etc., that you use for your patient. Do not add unnecessarily to the laundry-work, either for your patient or yourself. This is the rock on which the peace of the household is frequently wrecked.

How you should conduct yourself toward the members of the family.

The family have a right to expect from a nurse a cheerful, helpful spirit in all things. Do not be too particular

about your own dignity as a trained nurse. While carrying out all the doctor's orders and doing what is essential for your patient in the way you know to be best, there are many little things about which you should cheerfully accept suggestions from members of the family, doing them in their way. Never forget that the family have a burden of anxiety to bear when a dear friend is seriously ill that you know nothing about. Try to lighten the burden by a kind and considerate manner towards all the household. Remember that you are responsible to the family, as well as to the physician whose orders you must follow.

What the understanding should be about your meals.

You should be willing to accommodate yourself to the habits and circumstances of the family. For your patient's sake as well as for your own, you must request that your meals be served out of the sick-room, but never betray to your patient by word or look any lack of consideration for your comfort that you may unfortunately meet with.

Rest and exercise.

If your patient is very ill, rest can only be taken at odd times, when he can safely be trusted with some member of the family. As a rule you should have six hours at least of undisturbed sleep out of the twenty-four. Arrange to be called at a definite time, and then dismiss the subject from your mind. It will sometimes be necessary that you should be wide awake all the night; wear noiseless slippers, and a close-fitting wrap. Do not bundle yourself up in a shawl. Do not neglect to provide yourself with well-made coffee and some refreshment,—to be taken, if possible, in an adjoining room, where also, when the arrangements of the family will permit, the little

matters necessary to use in the care of the sick should always be kept.

A nurse must be allowed an hour away from her patient not less than twice weekly. If no arrangement is made for this, state your case pleasantly, and ask for relief; but never show unwillingness to go to your patient, even when off duty, and never let him see that you are tired or disturbed about anything. Fresh air can be secured for half an hour every day on the piazza, or in the yard, or in a room with all the windows open.

Concerning callers.

No nurse who respects herself will allow her duties to be interrupted by visits, or will permit any intrusion, by her friends, upon the families of her patients.

That nurses should be *extremely careful* in the friendships they make cannot be too clearly understood. A woman, while meaning no harm, will injure her reputation for life if she associates with unworthy persons, or with those to whom the slightest suspicion attaches, whether their acquaintance has been made in a hospital or outside of it.

To whom your time belongs.

Your time is the property of those who pay for it. There will be many hours, if your patient is not seriously ill, when, by assisting in the family sewing, or in other ways, you can make yourself useful. You should always see that the patient's clothing is ready for use, and not be reduced to safety-pins in place of buttons. On no account, however, bring sewing into the presence of any sick person or nervous convalescent, and never turn the gas up brightly in a sick-room that you may see to knit,

etc. One gas-burner will consume a large amount of the air needed for your patient.

What your duty is to the doctor.

It is your duty implicitly to obey all his directions, to report carefully in writing every symptom and the exact history of the day, to encourage full confidence in him on the part of the patient, and never under any circumstances to discuss his treatment of the case.

A nurse not justified in leaving a patient who requires her care.

Having assumed the responsibility, it is the nurse's duty to remain with the sick person as long as she can be of use, unless her health, or that of some member of her immediate family, obliges her to leave after a substitute has been secured.

There may be cases where the disease becomes chronic and incurable, lasting for years; it is not obligatory upon a nurse to remain indefinitely in such a case.

Special suggestion to a trained nurse.

Never "tell tales out of school." Find something better to talk about with the family than your own exploits in nursing, or personal items of physicians, or other officers in the hospital which you may have come from. A trained nurse ought to feel too much pride in her school to discuss its affairs in every house. If you are questioned about these matters, remember that gossip, though it may gratify curiosity for the moment, will not in the end increase the respect felt for the nurse. "A nurse should be ladylike in her standards of thought and deportment, in firmness, integrity, and discretion, while gentle and sympathetic in manner,—fitted for emergen-

cies, and yet for the petty details of ordinary life, she should walk her ways with purity of heart."

When a nurse may be an especial comfort and aid.

In times of great distress, or when it is clear that your patient is dying, your *quiet self-possession* and unobtrusive sympathy will be of the first importance. Do all that you can for your charge, and then, if not needed, stand aside that the family may be nearest her. When death has come there is no need, as in hospital wards, to hurry the arrangements. The relatives should be undisturbed until they voluntarily leave the room. Then you may do what is necessary. Be very careful that everything is done tenderly, and that great care is taken in guarding from exposure. Do not hurry from the house until you know whether you can be of use in the housekeeping, the care of the family, or in doing errands for a few days. Always leave the room, clothing, etc., in perfect order, and put out of sight medicines or other traces of the sickness. See that the bedding, towels, clothing, etc., go to the laundry, and if the room is left empty, that the windows are wide open and the shutters closed.

Special obligations which rest upon you in your profession.

You are in honor bound to hold sacred the confidences of your patients, and never to betray family secrets. Be sure that your reputation in this respect will follow you from house to house, and if it is discovered that you are a tattler it will destroy your business, and in the case of your being a trained nurse, will bring discredit upon the school whose interests you should have at heart. You have chosen a profession in which you may honorably maintain yourself, and win affection and respect. You

can make yourself a blessing or an affliction wherever you are called, and the turning of the scales will mostly depend upon *little things*.

Telling sad news.

It may sometimes happen to you that you are called upon to tell the patient that death is near. This you will of course never do without the doctor's permission, and not then if there is any member of the family, clergyman, or other person to whom the duty rightly belongs. When you must speak, do so with the greatest possible gentleness. To many a weary man or woman it is life and not death that is coming, and you will be bringing good news; but where there is only sadness and distress to face, all your courage will be needed as a Christian woman, all your tact as a wise nurse.

Without a quiet, cheerful, Christian faith no woman is properly fitted for the position of a nurse.

THE PATIENT'S ROOM.

The room and its arrangement.

The best room for a sick person is one on the sunny side of a house, and which has an open fireplace in it. Should there be such a room to which the patient can be removed, the nurse should pleasantly suggest the change. If the chimney is stopped with a fireboard, newspaper, blower, bunch of straw, or other obstruction, the nurse should at once remove it.

The room should be kept bright and cheerful, unless the condition of the patient requires it darkened. Let in the sunlight freely, always shading the patient's face. If the bed faces the window, turn it round, or, at least, set up a screen. Bars and streaks of light from ill-fitting

blinds are very trying to the eyes. The bed should be pulled out from the wall as far as possible, that the air may have access to it from all sides, and the nurse move easily about it. If the physician prefers a darkened room, the nurse must accustom herself to moving about quietly in it, and let no consideration for her own convenience lead her to object to the order.

How the room can be put in order.

This is the duty of the nurse, and requires management. Choose the time when your patient will be least disturbed. Never move about in a fussy way when he is eating. Do not use a feather duster; wipe the wood-work, furniture, etc., with a cloth. Hang the bedside rugs in the air. Dip a cloth in water and wring it dry, and pass it quickly over the carpet. This is especially necessary under the bed; the cloth can be fastened round a broom. A screen should be put round the bed while this moving about goes on. The room can only be thoroughly cleaned when your patient can be moved out of it for awhile.

Carry out of the room breakable ornaments and anything not needed that will only make a lodging-place for dust. Take away rocking-chairs that persons might be tempted to swing in, and keep everything about the washstand perfectly clean and fresh. If there is no adjoining room or closet in which you can keep the various little matters which you require in your work, keep them out of sight behind a screen. A common clothes-horse covered with a quilt or large sheet makes a screen easily procured.

How to put coal on the fire without noise.

Bring it into the room rolled in a paper, and lay it, paper and all, in the grate. When it is necessary to have

ashes taken up, or other disturbing work done, use the screen as above.

The bath-room and closet.

In ordinary households there will be no special bath-room for the patient's use. The one room will be the common property of the family; but whether this is so or not, keep the bath-room, so far as you and your work are concerned, *scrupulously clean*. Never leave soiled towels hanging about; never leave any unclean thing in sight; wrap soiled dressings in paper at once, and put these in a pail. Burn them promptly in an open fireplace (opening the window for the time). Put the patient's soiled clothing in a basket by itself to be washed apart from the family washing. *Never clean your teeth over a set basin*; or soak soiled articles for yourself or your patient in it or in the tub; have a special basin or foot-tub for this purpose. Never throw any litter into the closet; wipe up at once anything spilled there, and daily wash the seat and pan with carbolic acid solution, and keep bedpan and urinal cleaned in the same way. Have a separate clothes-horse for airing flannels or towels, etc.

Your own room will generally be under your own care. Keep it perfectly neat and well aired. A woman of refinement is known by attention to all these small details.

Bedside tables.

A small, light table, with a drawer in it, should be placed for the patient's use. A glass of water or of cracked ice, covered with a saucer or napkin; a few perfectly fresh flowers in *clean* water; the patient's watch, cologne, etc., may be allowed on the bedside table, but nothing else.

Stationary basins.

If there is a stationary basin in the room, put in the plug and fill the basin full of water, which must be changed from time to time; or stuff a towel into the basin so as to close the overflow holes also, and then cover it with a stiff paper or board, and never empty anything into it or use it in any way.

Reasons for not using stationary basins.

The water you bathe your patient in, or use for any purpose about a sick-room, is very impure, and if emptied into the basin will form a slime round the pipe, and the impurity will escape into the room again in the form of foul air. The waste-pipe also is almost sure to be defective, and sewer gas may arise through it from other parts of the house or from the street.

Slop-pails.

These should never be allowed in the room. Carry out all vessels covered, and empty and wash them immediately. Washing soda in hot water will remove stains from them. Keep special towels constantly clean for this use.

Bedpans and other vessels.

Never allow vessels, bedpans, or urinals to stand where they can be seen, either by the patient or by persons coming into the room. Keep them in some closet or adjoining room when possible and *never put them under the bed*. If they must be ready for instant use, stand them near the bed, and throw a clean towel over them.

Vessels should be warmed before bringing them to the patient, and they should be covered with a towel when brought.

How high the thermometer should stand.

Never let the thermometer rise above 70° , unless in special cases, such as croup, etc., when the doctor's directions must be strictly followed. At night the temperature may be 60° – 65° , unless the doctor directs otherwise. *Ask him about it.*

What ventilation is.

Right ventilation is clean air displacing foul air, steadily and constantly, and without chilling the patient or the room.

Cold rooms.

Do not suppose a room to be well ventilated simply because the thermometer is low. The air in a cold room may be very impure.

Device that may be of use in airing a room.

It has been suggested that a door swung rapidly and quietly back and forth will pump the bad air out of a room, and draw in the fresh air from the window which is down at the top.

The door left open into the entry.

You cannot ventilate a room by leaving the entry door open; only the stale air from the house comes in by the door, and all house noises are heard. A door into an adjoining room could be open if that room were ventilated through an open window. This would answer at night.

What to remember about perfumes.

Remember that the burning of pastilles or coffee, the sprinkling of perfume, etc., *does not purify the air*; it is simply covering, not cleansing. Clean air can come *only* from outside the house.

What you can do to ventilate a room.

With the doctor's permission, the window farthest from the bed can be kept constantly down an inch at the top, the blinds, or shutters, or a screen being so arranged that there shall be no direct draught on the patient. Stand a lighted lamp in the open fireplace, or, better, light a fire there. This draws the foul air up the chimney, while the fresh air from the window takes its place. If it is impossible to have a fire constantly, a few sticks lighted several times a day, and the lamp kept burning in the chimney at all other times, will answer.

How you should proceed to air more fully.

Cover the patient's head as well as body from all possible draught, protecting the head with a cap or hood, and the body with extra blankets; in certain cases drawing a blanket up over head and all. Throw open the windows for a few minutes, keeping the patient covered after the windows are closed until the thermometer again stands at 68° or 70° . This should be done in dry weather, where the case permits it, at least three times a day. Where this cannot be done, fill an adjoining room with fresh air, wait until it is a little warmed, then open the doors and let the air into the sick-room. The cases in which you must not allow your patient to breathe the cold air, but must cover his head and mouth until the fresh air is again warm, are all such as involve the throat, lungs, and nasal passages; croup, sore throat, diphtheria, pneumonia, typhoid, which often becomes typhoid pneumonia; and scarlet fever and measles, which both occasion throat-troubles.

Bed-making.

Bed-making in a private family does not differ from the usage in hospitals, but as a rule the bedsteads are

wide; in this case if you do not change the sheet you can at least gently move your patient from one side to the other, turning, not dragging, him, and have a fresh half of the bed for the night. Full directions for bed-making have already been given.

How to secure a fresh-feeling bed with few sheets and pillows.

Sheets should be changed much oftener than they commonly are in private families, but if the supply is limited, you can at least keep two upper sheets in use at one time, and alternate them, taking the one that has been in use all day and hanging it in another room to air, and putting over your patient at night the sheet which you hung by the window in the morning, being careful that it is not damp or chilly. Pillows should be changed in the same way at night. You may help in this way to secure a good night for your patient. As soon as he is well enough to be lifted to a lounge, have the mattresses, pillows, and bedding carried out of the room and aired by an open window.

Airing clothing, etc.

No clothing in use, no flannels or damp towels, should be aired in the room. Soiled articles of all kinds should be at once removed. Keep two night-dresses in use, one for the day and one for the night; always hang the one you take off by an open window for awhile, and warm it before using it again. Keep two sets of blankets if possible; airing one set in the open air while the other is in use.

THE PATIENT.

Should a patient help himself?

Not at all, if he is very ill. Never let him sit up or turn himself alone. Save his strength in every way.

How to lift the patient, if very ill, to another bed.

The bed should be made ready for use and pushed close to the one occupied. Two, or better, four persons should then take by its corners the sheet on which the patient lies, and very slowly and gently lift and place him on the fresh bed, removing the sheet used after he has rested awhile. Or, if there can only be one person in charge, she can proceed in this way: the second bed must be the same height as the one occupied; a large rubber-sheet or enamelled cloth should be laid under the patient, who is drawn to the edge of the bed. This cloth securely fastened with safety-pins to the first bed extends over to the fresh bed and makes a smooth surface, across which the patient may be easily pulled on a sheet to the fresh bed, and the rubber-cloth may be removed.

How to raise a helpless patient.

If the patient has slipped down in the bed and needs to be put up on his pillow again, he *must not be dragged*. If strong enough, he must clasp his hands round the neck of the nurse, who leans over him, by this means distributing his weight more equally; the nurse will generally find it easy to gently lift him in this position an inch from the bed and raise him up or pass the left arm under the pillow and raise the patient's head and shoulders. Should he be too heavy to lift in this way, or too helpless to use his arms, it is better to drag the sheet on which he is lying up towards the bed-head, and to cover the space left at the foot with another.

Should it be necessary to lift out of bed to a night-chair, the chair must be raised to the level of the bed, if possible, and he should then clasp his hands round the nurse's neck, and be in this position gently moved along

towards the chair. The return to bed can be managed in the same way; the patient being seated on the edge of the bed, his feet can be lifted from the floor.

When there are two who can lift the matter is more easily managed. One nurse should place herself behind the patient and pass her arms under his arms, and clasp her hands over his chest; his head and shoulders will in this way rest against the nurse's chest. A second person then clasps her hands under the patient's knees and raises them a little; then both at the same moment lift him and change his position. This must all be done slowly, and care taken to put him down gently without any jar or twist.

If he is absolutely too heavy to lift, taking him out of bed should not be attempted, and the usual vessels should be substituted for the night-chair.

The patient's toilet.

In a private family there are dainty ways of making the toilet that are not possible in a hospital; the cleanliness will, of course, be the same in both cases. Special baths will be given as directed in the chapter on that subject. For the morning toilet bring to the bedside a shiningly clean china or enamelled basin (never a paper one); soap that is used for the patient only; a soft, dry wash-cloth; a nailbrush and scissors; freshly warmed towels; a pitcher of warm water and a china slopjar; alcohol, lavender, or cologne; a dry toothbrush, and tincture of myrrh or some other toothwash; a clean brush and comb; and fresh night-clothes. Have all these things ready before you begin, and then having protected the bed from dampness, make the toilet without hurry or fuss. If a full bath is given it will be later, after some nourishment has been taken; it is too exhausting to be given the first

thing in the morning. Hospital hours are not to be insisted on. If the patient feels that a full bath in the morning will tire him, postpone it till bedtime, when give a tepid sponging, followed by alcohol rubbing in long slow strokes, which will probably induce sleep.

Always give a fresh handkerchief after a bath.

Brushing the hair.

Protect the pillows and bedding by putting a large towel, or peignoir, about the patient. A woman's hair should be lifted in locks with one hand, and gently combed or brushed with the other, commencing at the ends. Never fasten it in a hard knot, which presses on the patient's head while lying in bed.

How to change a patient's night-clothes.

Have everything at hand, and all well aired and warmed before you begin. Make the change by slipping his arms out of the sleeves and putting the fresh clothes over the head before removing the others at the feet. If the patient is very weak, rip the night-gowns or shirts down the back. In removing, slip out one arm and at once slip on the corresponding clean sleeve; tuck the gown under the shoulder, pushing off the soiled one at the same time, and then put on the other sleeve. This can all be done without raising the patient up in bed. If flannel shirts are worn, rip them in the same way, and slip sleeves inside the night-gown sleeves before beginning to make the change.

What generally causes bed-sores.

Bed-sores are, in nine cases out of ten, the result of bad nursing. *Prevention* is better than cure. The nurse has mistaken her calling who lets a mock modesty keep her

from doing her duty in this matter,—sponging the exposed parts, or those upon which pressure comes, *daily*, three or four times if necessary, with alcohol and water, dusting them with starch, and keeping the under sheet perfectly dry and smooth, and the clothing clean. Too much vigilance cannot be exercised. A very heavy or a very thin person will be peculiarly liable to bed-sores even without serious illness. Pressure on one part must be avoided by changing the position every few hours, and by using air-cushions. The slightest redness and tenderness should be reported to the physician. Alcohol must not be used if the skin is broken; an air bed may be necessary.

What to be careful about in giving medicines.

Medicines should be given as near the exact time as possible, and in the exact quantity ordered. Never trust to the eye; measure in a graduated glass, or drop it with care. See that the bottles are labelled carefully. A trustworthy nurse will always look at the label on the bottle before taking the cork out, whether she thinks she is right or not. *The habit of caution should be strong with a good nurse.*

Where bottles, spoons, glasses, etc., should be kept.

Keep all these things out of sight, on a table or shelf by themselves, and all poisons out of reach except by yourself. When the prescriptions are changed and certain bottles and boxes are no longer needed, put them away in some closet to save confusion. Medicines often stain silver spoons; to prevent this have a bowl of clean water with your bottles, and keep the spoon in it. One or two clean napkins should always be at hand, with the medicines. All washing of glasses and spoons must be done

away from the patient's room; the rattling and jingling are very annoying.

Cooking not to be done in a patient's room.

Do not cook or warm anything in the patient's room if you can possibly avoid it. Simple fixtures are bought which can be placed over any gas-burner, and in which gruel or beef-tea can be quickly warmed. A nurse should provide herself with one, to carry with her to her patient's houses. Do this warming in an adjoining room, or even in the entry, rather than in the presence of the sick person.

The proper manner of serving the meals.

Serve them upon a tray covered with a fresh napkin. Have cups and spoons shinningly clean. Be careful not to spill the tea into the saucer, and not to bring *too much* of anything. Be careful that all necessary things are on the tray when it is brought to the patient; if you are obliged to leave it a moment to go for something else, never set it on the bed, but on the table. Never taste a patient's food in his presence. Take the tray out of the room as soon as the meal is eaten. You may keep beef-tea which is needed for the next dose in the nearest cool place, carefully covered. The ledge outside the window, in the shade, will answer if there is no better place. Take it away from the bed even if you have to give it again in ten minutes. Medicines, food, or stimulants should never be where the patient can see or smell them. Never leave food standing on the table under the idea that perhaps the patient will "take a little by and by." When needed, let it be brought promptly, in the right quantity, and without too much stir or parade, or rattling or jingling of cups and spoons.

How you should feed your patient.

Prop him up gently; put something round his shoulders, and a napkin under his chin and over the sheet. Do this whenever anything is to be put in the mouth. Do all without hurry, and avoid talking to your patient while he is eating. In feeding a helpless patient give him his food in manageable mouthfuls. Alternate the food with whatever liquid is allowed. When he has finished, wipe or wash the mouth gently, take away the bed-rest, and let the patient down slowly with your hand under the pillows. Notice the quantity taken, and report to the doctor in definite terms: "He took four tablespoonfuls of soup," or "a wineglass of punch," etc. Consult the hours when your patient can best take food. Anticipate and prevent faintness. Not a few lives are lost by mere starvation, where a little ingenuity and a great deal of perseverance might have averted the result. If your patient feels faint at a certain hour one day, just before that time on the next day give him his nourishment or stimulants.

How to persuade a patient to eat.

Bring the food, whatever it is, to him. Do not say, "Don't you think you could take a little" of this or that, unless you have it in your hand at the time; the patient will get over the fancy for it while you are gone to prepare it. Vary the diet as much as possible when allowed, but with a very sick person do not use up what little appetite or power of digestion there may be with foolish things,—wine jelly or other sweets.

What to do when much food cannot be taken at one time.

In such a case give a little food frequently, at short intervals. Ask the doctor whether you shall wake the

patient to feed him. Sleep is sometimes of more importance than food. Great care should be taken not to interrupt sleep unnecessarily; but remember that patients sometimes sink away in their sleep, when had they been roused and fed they might have lived. Six small meals are better than three large ones for most sick people.

Feeding delirious or insensible persons.

Rouse the patient's attention as much as possible, call him by his name; press the spoon against the lower lip, and move it gently back and forth. Generally the lips will part involuntarily, and then you should pass the spoon in, far back in the mouth, and slowly empty it. The patient must first have been slightly raised by a hand under the pillow. Insensible persons often suffer from thirst, and must have water given to them from time to time, or the mouth and tongue may become very dry and the breathing be more difficult.

Early morning food.

Even when there is no very serious illness the early hours must be provided for. The patient has perhaps been restless and wakeful, or is exhausted by heavy sleep, or is feeble from old age, or convalescing from severe sickness, with the longing for food which is felt on recovery from fevers sometimes. In any and all of these cases do not wait for the family to be roused; arrange for this necessity over night. Have at hand in some accessible place, *not the patient's room*, nor any other occupied room, some light food which you can heat quickly over a gas- or spirit-lamp,—gruel, beef-tea, coffee, boiling the milk which you add to it; any simple thing which the patient is allowed to eat. Give it, having first washed out his mouth with a soft cloth, or given him water to rinse it

with. It will often happen after this food that the patient will have a refreshing morning nap.

Food at night.

With a very sick person feeding and the giving of medicines go on regularly during the twenty-four hours ; there is no day and night ; but no patient suffering from exhaustion, or slowly recovering from a wearing illness, should be allowed to settle down for the night without taking as the *last thing* some light and nourishing food. A cup of hot caudle, a glass of milk not too cold, a little gruel, or cup of well-made broth, will support the patient through the night, and prevent the feeling of exhaustion in the morning.

How to avoid disturbing the patient at night.

Make all the arrangements for the night early ; have the fire in order, the different articles needed at hand, the room aired, the last medicines and food promptly given, the bedside table ready, and the light turned down and shaded from the patient's eyes. Tin shields are bought for gas-burners.

Watching the expression and breathing.

Be careful to have your light so arranged that you can, from time to time, brighten it enough to show you your patient's face as he sleeps. A candle brought near the bed and shaded with the hand will answer. The color and expression of the face must always be carefully watched by day or night ; but in sleep alarming changes may take place, especially with feeble or old persons, or young children, and they will be known only by the color or expression of the face and by the breathing, which cannot be ascertained in the dimly-lighted room. At such

times it may be of the greatest importance to rouse the patient and give some stimulant or food.

What provision to make for the hours just before day-break.

If the patient is very ill, the responsible person must arrange always to be with him toward the early morning. At this period of the lowest temperature the fatal chill often occurs, and the patient may be lost from want of a little external warmth. The fire should, if necessary, be replenished. The feet and legs should be kept warm, and whenever a tendency to chilling is discovered, hot bottles, hot bricks, or warm flannels, with some warm drink, should be made use of until the temperature is restored.

Things that are important enough to write down.

The hours at which medicines are given should be written down and crossed off each time that something is taken. Great care must be used not to crowd medicine and food one upon the other. The nurse must know just how much broth, milk or other food the doctor wishes to have the patient take; exactly how often he must be fed, and how long an interval should be left between certain kinds of food and certain kinds of medicines. Or, if the matter is left to her own discretion, she must arrange the time for giving food in such a way as not to destroy the patient's appetite by giving medicine immediately before the food, or to nauseate him by giving it too soon afterwards. A good nurse has a *time-table* for all these things written out for the day, and will need all her ingenuity sometimes to keep the doses and the food from encroaching on each other.

The patient's journal.

It is further the duty of a good nurse to write out a short history of the patient's day, an account of just what has taken place since the doctor's last visit; how the temperature and pulse have varied, and at what hours the changes occurred; how often there has been a movement of the bowels, and what the character; what the character and quantity of the urine passed; whether the sleep was a quiet or a restless one; what, and at what hour, food and stimulants were taken; when medicines were given, etc. All this put plainly in accordance with the chart (page 82) will save a great deal of talking in the patient's room and consequent anxiety on his part about his own symptoms; will economize the doctor's time, and will obviate mistakes if the nurse happens to be taking her necessary rest when the doctor calls, and some one else is in temporary charge. It is systematic carefulness in these little things which makes the difference between a good nurse and a poor one.

Precautions on leaving the patient to another's care.

In a private family there is no ward nurse equally responsible with yourself, and so you should write down what is to be done in your absence. If blunders are made by the person in charge, the written directions will protect you from blame. Do not stay away longer than the exact time provided for. Your patient will watch for your return, and if you are *kind* and *intelligent*, will prefer you to any one else.

Defend your patient.

Defend your helpless patient from well-meaning, perhaps, but injudicious interference. Do not allow visits or

conversations in his presence that may injure or fatigue; such as accounts of other people's diseases, or recommendations of "sure cures," and other quack treatment. Never allow the symptoms of your patient to be discussed in his presence, or hospital operations, etc., talked of; avoid much talking of any kind. Keep thoughtless people, or noisy children, out of the room. The more people there are in the room the less fresh air there is. Especially prevent your patient from hearing news or any exciting subject spoken of in the evening. Keep his mind quiet for the night, and be very careful that his first sleep is not disturbed. A patient who is roused out of his first sleep very often has his night's rest destroyed.

If during the illness bad news of any kind has come to the family, do not allow it to be told to the patient without the doctor's permission. It will sometimes be necessary to ask the doctor to be at hand when the news is given. Under no circumstances should the patient be suddenly shocked or pained by such communications, and all little domestic worries must be kept away from the sick-room.

Whispering in a sick-room should be called a vice.

There may be circumstances in which a whispered conversation in the same room with a patient is absolutely cruel. It is impossible that the patient's attention should not be strained to hear. Walking on tiptoe and moving stealthily about the room, peeking in through the half-open door, are injurious for exactly the same reasons. A low distinct tone when conversation is necessary and a light step will seldom annoy. A patient will often refrain from complaining of these little things lest he should be thought selfish. All the more care should be taken to protect him from them.

What other things disturb a patient.

Sitting on the bed, the rattling of newspapers, the turning of leaves with a snap, the swinging of a rocking-chair, sewing and the clicking of knitting-needles, one or all, are sometimes seriously annoying. Unnecessary or unexplained noise, though slight, injures a sick person much more than necessary noise of a much greater amount.

How to promote the peace of mind and serenity of your patient.

You may do this by not being too professional and rigorous, by moving quietly, promptly putting things in their places, knowing the right thing to do and doing it *without hurry*, never calling upon your patient for a decision, or letting him be startled by any one or anything. Anticipate little wants, but never question in regard to them. If your patient is delirious, do not contradict him; humor the notion quietly, whatever it may be, or say nothing unless questioned. Be careful to avoid all appearance of fear.

Further, *do your thinking inside your head*, and do not oblige the patient to hear you say, for example, "There! I must go and see about that beef-tea; but I guess I'll wash up the spoons first." The nurse should listen attentively when the patient speaks, and never ask him to repeat. Never speak to him from a distance, or while standing behind him. Shut a door quickly and softly, oiling the hinges, if rusty, to prevent creaking.

Low-spirited patients.

If you can conscientiously encourage a patient, do so. Keep him cheerful and free from anxiety, and never look

gloomy or anxious yourself, or give up hope while life lasts.

Insensible patients.

Though a patient seems insensible, or in a stupor, never say anything aloud or in his presence which he ought not to hear; his hearing may be acute though he may not be able to speak or move.

Convalescence.

When a patient is convalescing great ingenuity will be needed to vary the monotony; a relapse may sometimes come from utter weariness and want of interest in life. Bring flowers, illustrated papers, and sensible friends to the room. Give all the fresh air that you can. Put a blanket in its length over the seat of the chair, and draw the end up over the knees, so making a warm pocket for the feet. Wrap up the patient and wheel him in the chair, or on a sofa, into another room, or open the window when the sun shines fully on it, and, putting extra wraps round him, let him sit there awhile. Fresh air before a meal will often secure a good appetite. Change the arrangement of the furniture. If a picture or any other ornamental object has stood long within the patient's sight, put something else in its place. But in all these efforts at variety do not fatigue the patient with too many things to see and do in one day. Remember that on first sitting up the patient is liable to take cold easily.

What if the patient is cross.

The nurse must make great allowance for all irritability, and take special pains to be gentle and patient. Under no possible circumstances may a nurse threaten a patient with leaving him. If she finds her own strength

and amiability unequal to the case, she must speak to the physician and be guided by his advice.

Reading aloud, or in the presence of the patient.

This is never admissible unless asked for, and should never be long continued. If reading aloud is agreeable to the patient, or is permitted, read in an even, rather low voice, without much emphasis and without gesture. Do not make little pauses to pick out scraps for your own reading while the patient waits, and do not fold and re-fold a newspaper, or rattle the leaves of a book as you turn them.

In general be quiet and self-possessed at all times.

CHAPTER III.

OBSERVATION OF SYMPTOMS.

A PATIENT should be under the constant but unostentatious observation of the nurse, and she should be able to detect variations from a normal condition which may occur in the intervals of the physician's visits and to report them; as—

The color of the skin. Unusual pallor, a flush. The flush of hectic fever is circumscribed on the cheeks. Other fevers give a diffused redness. In pneumonia the flush is sometimes confined to one cheek. Jaundice gives a yellow tint, which extends to the white of the eyes. All imperfect oxidation of the blood affects the color of the skin.

Expression of the face. Is there a pinched or anxious or apathetic look, a drawing of the mouth to one side, a swelling or an extreme thinness of the lips, a distinct movement of the nostrils? Report any of these symptoms.

Pain is a symptom, not a disease. Do not suggest the character of the pain by asking whether it is sharp or dull, or here or there; let the patient describe it in his own way and repeat his exact words to the doctor.

Position in bed. Is the patient more comfortable in one position than another,—with the knees drawn up? Is he restless, and at any special hour or after any special meal?

Restlessness may mean mental or physical disturbance.

Absolute quietness may mean too great weakness to move.

Sleep. How much does the patient get in twenty-four hours? *Know*, do not guess. Is it disturbed by dreams or muttering, or convulsive twitchings? Is it in broken naps? light or heavy? Is it difficult to rouse the patient, should it be necessary to do so? A patient is not always sleeping when his eyes are shut.

Mind. Is the mind clear? If not, at what time of the day is there confusion or wandering? Is there irritability not usual with the patient? Is there unconsciousness for a moment now and then?

Headache. It is not enough to say, "The patient had a headache" at such an hour. The following particulars must be noted and reported:

Location of the pain—whether frontal, occipital, one-sided, or on top of the head.

Nature of the pain—whether throbbing, dull, or shooting; whether preceded by dimness of vision or accompanied by dizziness, nausea, vomiting, or pains in other parts of the body; whether there is an accompanying rise of temperature.

The skin. Notice whether it is dry or moist; whether there is perspiration at night or any peculiar odor of the perspiration. This is marked in certain diseases.

The breath gives information as to the bowels, the teeth, catarrhal trouble, failure of kidney function. A sickish sweetness sometimes indicates disease.

The eyes should naturally be clear and bright; note deviations from this, and whether there is an abnormal squint or swelling of the lids.

The hearing in illness is often unnaturally acute. Report at once pain or swelling about the ears and any discharge from them.

The tongue has its marked characteristics in different diseases. Any deviation from a clear, clean, normal tongue and any bad taste in the mouth should be noted.

Nausea is always a symptom to be watched. The matter vomited, in all serious cases, must be kept for the physician's inspection. Any appearance in it of blood or fecal matter must be at once reported.

The appetite is always variable. In reporting to the physician state exactly the quantity of solids and liquids *taken by the patient*, not the amount you served; and mention whether there is difficulty in swallowing or pain after it.

Thirst is felt long after the appetite has gone, and in almost all cases water can be freely taken. It should be offered by the nurse frequently and kept within reach of the patient. Always keep it covered. Ice put round it in a bowl is better than ice put in it.

After some surgical operations, neither food nor liquids are allowed for a given time, and thirst becomes excessive. High enemata of hot or cool sterile water, or saline solution, are sometimes ordered to relieve it. The nurse may try simple methods, like washing out the mouth frequently with glycerin and water in which are a few drops of lemon-juice; using cool water, with a drop of tincture of myrrh, in the same way. Mouth-washes should be given with a linen swab fastened to a stick, a fresh swab each time; the solution must be poured over the swab, which is never to be dipped into it. The lips at least should be kept moist. As soon as possible teaspoon doses of cool water should be given, but never on the nurse's responsibility.

The condition of the bowels must be carefully noted,—the quantity and character of the discharges and any constipation, which is the source of many ills. If too

little food is taken action may not be excited; if too little liquid, the contents of the intestines may be too dry to be expelled.

A long drink of cool water the last thing at night and *before* breakfasting, accompanied with gentle massage over the bowels, will often break up the trouble. Cold drinks with the breakfast should be avoided.

Persistent constipation may result from hemorrhoids; when it is accompanied by vomiting or nausea, it may mean obstruction of the intestines, and a surgical operation may be necessary.

Urine.

The condition of the urine as determined by chemical analyses gives information as to the presence of certain diseases.

Through the kidneys with the urine are drained away many of the impurities of the blood and any excess of its watery ingredients. The chemical composition of urine is constantly shifting, and even with healthy persons there are continual changes in the color and quantity of that daily passed.

The normal color is like light amber, or wheat-straw, and the normal daily quantity from thirty to fifty ounces in twenty-four hours.

It is always somewhat acid in health, and will turn blue litmus-paper red; it is most acid just before eating, and less so during the process of digestion.

The conditions vary,—

With age, in children the quantity in proportion to the weight of the body being nearly twice as great as with adults.

With sex, the quantity being somewhat more with females than males.

With seasons, less being passed in warm, dry weather than at other times, for the reason that perspiration is profuse and urea passes off by the skin.

With times of the day, being more deeply colored in the early morning, paler during the forenoon, and deeper again in the afternoon and evening.

With differences in food and drink, many vegetables, acid fruits, liquids, etc., increasing the quantity, and producing other changes.

With violent exercise, which causes certain chemical changes.

With mental exertion or emotion, as in over-study, anger, fear, hysteria, when the quantity of urine passed is sometimes suddenly increased.

Slight variations from the normal condition in quantity and color for a day or two are of no importance, but should they be frequent and long-continued, and especially if accompanied by other symptoms which do not occur in good health, attention should always be given to the matter. In different illnesses the variations from a healthy condition, with the presence and character of sediments, should be carefully noticed and reported.

In preserving urine for examination by the physician, the nurse should very carefully wash the bottles in which she is to put it, using only clear glass, and washing them first in warm and then in cold water, until they are perfectly clean. For such bottles used a second time, add soda in cleaning. The corks should be new, or washed and scraped. A label should be attached with the date and name of patient. The nurse must be able also to tell just what was eaten, and what the mental condition of her patient during the time, and whether any pain was felt or difficulty in passing urine.

The specimen must be from the mixed urine of twenty-four hours; by this is meant that the bladder being emptied at a certain hour, *that* secretion is discarded and *not counted*; but all that is passed after that hour, and up to the corresponding hour of the next day, is preserved and mixed, and from the whole quantity half a pint is kept as a specimen. Stand it in a cool place; heat decomposes it.

Suppression of urine means that the kidneys fail to secrete it and none reaches the bladder.

Retention means that it accumulates in the bladder, the patient not being able to void it.

Incontinence is inability to retain the urine in the bladder, and is sometimes due to over-distention, as shown by swelling of the bladder.

Whenever from any cause the patient is unable to pass urine voluntarily, the catheter is generally used every six or eight hours.

In cases of retention, especially with children, hot applications over the kidneys and bladder or a hot sponge between the thighs may be all that is needed to correct the difficulty. These should be tried before using catheter.

Temperature, pulse, and respiration are so intimately connected that anything affecting one is likely to affect the others. Pulse and respiration are, however, more readily disturbed and deviate more in sickness from the normal condition than does the temperature, but the variations of the temperature express more correctly the condition of the patient.

With children, sleep, anger, suckling, slight indigestions, etc., all cause alterations in the pulse and respiration, which are of no moment unless they continue, and are accompanied with changes in the tempera-

ture, in which case a general trouble of the system is indicated.

And the same is true of adults, with whom, though, variations of either one of the vital signs are more important than with children.

Table of the concordance of the vital signs,—temperature, pulse, and respiration.

Age.	Temperature above the normal.	Pulse.	Respiration.
At birth	1- .5	120-150	40-60
2d to 3d day . . . . .	.2		
7th day	2- .6		
1st month . . . . .	.5	120	40
1st year . . . . .	.25	105-130	30-40
3d year . . . . .	.4	95-105	23-26
7th year . . . . .	.21	80-90	22
15th year . . . . .	.31	75-85	20
Adult, 21st year	0	70-75	16-18

Temperature.

The average normal temperature in adults is 98.4° – 98.6° . There is a diurnal variation of sometimes 1.5° , the highest point being reached in the evening. Exercise, diet, climate, sleep, cause deviations from this standard, and in childhood the temperature varies from the adult, as indicated in the preceding table.

The importance of noticing the first variations from the known normal temperature cannot be over-estimated. A slight deviation for a day from the healthy degree is of no special importance, but should the temperature on the morning of the second day be higher than on the morning of the first, and by noon a little higher still, there is probably something wrong, the patient should be guarded from fatigue and exposure, carefully watched, and the physician called.

If the rising temperature does not show what the disease is, it does show what it probably is not. For in-

stance, a rapid rise of temperature of three to four degrees above the healthy standard does not mean typhoid fever, but may mean measles or scarlet fever. In measles the high temperature would precede the eruption four or five days; in scarlet fever, twenty-four hours probably; in smallpox, two days. In whooping-cough the first signs of complication with the lungs would be a rise in temperature. In diphtheria there is this rise before any one thinks of looking at the throat.

Increase of temperature calls for cooling remedies, external and internal.

Decrease of temperature below the average requires warming and sustaining treatment.

The hour at which the rise or fall of temperature takes place must be noticed.

An increase, beginning each day a little earlier, is a bad sign; one beginning later promises well.

A decrease, beginning each day earlier, is a good sign; but if later each day it is a bad indication.

The duration is another important thing to consider; a long-continued high temperature without a fall is bad; a long-continued lower temperature is an encouraging sign.

A very high temperature—say 105° —is dangerous in itself, but more so if it has come on gradually as the last of a progressive series, the temperature having grown daily higher by half a degree or more, and come daily earlier by an hour or so.

A fall from such a high temperature, below the normal point,—say two degrees,—would mean serious danger; but a fall of not more than four-tenths of a degree below it would give time for the use of restoratives and hopes of a natural reaction.

A fall of *temperature below the normal point* is far

more dangerous than a much greater corresponding rise. One degree below is more indicative of a bad condition than are two and a half above the normal. The danger is first in the degree of depression, then in its continuance, then in its descending progression.

The slowly-increasing low temperature cannot fail to prepare the way for serious invalidism or death.

Besides the variations from the normal point in disease, the daily and hourly *fluctuations* of temperature are striking: it travels up and down through nearly the entire range of the thermometer sometimes for weeks, never remaining near the normal point until convalescence approaches; so that if for three successive days the temperature in the morning is found to be normal or to vary a few tenths of a degree only, and if in the afternoon it shows a corresponding rise,—of not more than one-half of a degree,—the danger may be considered at an end in acute diseases.

Temperature as a test of nourishment.—The degree of temperature is of value as a test of the nourishing properties of food in the following way: if, after a child has been fed either from the breast or by hand, the index of the thermometer shows no rise, and on giving the child food of a different kind there is a decided rise, it is safe to conclude that for this child the first food was without nourishing properties. A well-fed child will always show after a good meal a rise of a few tenths of a degree; a starved child's temperature will, after nourishing food, run up a full degree.

In convalescence, if there is no rise of temperature after eating there is no nourishment secured from the food; if there is a sudden or high rise above one degree, the food was too stimulating or indigestible.

To be beneficial in convalescence food must increase

the temperature a quarter to half a degree, and this must almost subside when digestion is over, though leaving a gradual improvement daily in the average daily temperature.

For the various ways of taking the temperature, whether axillary, rectal, or by the mouth, see Chapter V, "Clinical Thermometer."

Pulse.

At every beat of the heart a wave of blood is sent through the entire arterial system. The rapidity and character of the heart-beats can be determined by placing the tips of the fingers over an artery near the surface at one of these points:

At the wrist, over the radial artery; at the temple, over the temporal artery; on the throat, over the carotid artery; on the inner side of the thigh, over the femoral artery, or at the heart. The usual place for taking the pulse is at the wrist, and the fingers should be kept in place a full minute.

Healthy pulse in an adult varies with the person; in general it may be stated as 70 to 75.

Variation from a healthy pulse does not consist simply in an increase or decrease in the number of pulsations in a minute. The qualities to notice are the frequency, regularity, and fulness.

A healthy adult pulse beats steadily and evenly from seventy to seventy-five times a minute. The number of the pulsations is affected by the position of the body, being more rapid in standing than in sitting, and in sitting than in lying down.

Its *regularity* may be interfered with in two ways,—either the motions of the artery are unequal in number and force, a few beats being from time to time more

rapid and feeble than the rest, or a pulsation is now and then dropped out: the pulse intermits. These irregularities may be caused by disease within the head, or heart, or stomach, or may result from debility which precedes death.

The fulness of the pulse is determined by the sensation given to the finger by the blood as it passes through the artery.

The pulse is said to be *full* if it strikes a large part of the finger pressing it.

Small, if it strikes a small part of the finger.

Hard, if in spite of firm pressure it forces its way under the finger.

Soft, when the pulsations are feeble.

Wiry, when the pulsations are hard and small, the flow feeling like a wire.

Jerking, when the blood comes with short, hard knocks.

All these different conditions are to be carefully considered when studying the pulse as an indication of disease or health.

With young children it is extremely difficult to ascertain accurately the number of pulsations in a minute, and the important things to notice will be the regularity and fulness, which are more easily discovered. Take a child's pulse when it is sleeping.

Respiration.

A healthy adult breathes from sixteen to eighteen times a minute without being conscious of the act of breathing. In sickness, the point to notice besides the variations from the healthy standard in number, are: whether the breathing is even and regular, or panting and short; whether it is from the upper or lower part of the chest; whether a full, deep inspiration can be

taken without pain, and at what spot, if any, the pain is felt; whether the breathing is better in one position than another, and in which it is most distressing; whether any sound is made as the air passes through the lungs and air-passages, and what sound; whether there is a difference, and what it is, between the breathing sleeping and awake.

Method of taking the respiration.—One special point to observe is that the patient shall not know that you are taking note of the respiration.

Notice it when you are taking the pulse, or, if this is confusing, count it when unobserved or when you lay your hand on a woman's chest; or, as abdominal breathing is usual with men, lay your hand on the patient's abdomen and notice the frequency. If it is seen that you are counting at this time, the respiration will be artificial.

Notice the ratio between the expiration and inspiration; if the former is *prolonged*, it is an important indication in diseases of the lungs and air-passages.

Chart.

The chart of vital signs is, of course, kept by all hospital nurses during their training. The manner in which it is kept is an excellent indication of the accuracy and neatness of the nurse. If the nurse in a private family has no printed form, she must write out on a large sheet of paper memoranda which shall include the following items:

Date: _____

Nurse. _____

Hours.	Temperature of Rooms.	Medicine—Kind and Amount.	Stimulants—Kind and Amount.	Food—Kind and Amount.	Other Prescriptions, Lotions, Bathing, etc.	Respiration.	Pulse.	Temperature.	Perspiration. Action of Bowels. Action of Kidneys. Amount of Sleep. Condition of Mind. Discharge from Wound. Secretion of Milk. Lochial Discharge. Other Symptoms.
A. M.									
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
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Physician's Directions

CHAPTER IV.

SOME SPECIAL MEDICAL CASES.

THE exciting causes of many diseases are proximity to stagnant water; exhalations from defective drains, sewers, and cesspools; damp cellars; impurities in drinking water, caused by nearness of the wells or cisterns to drains and cesspools; sudden changes from heated rooms to damp night air; mental or bodily over-fatigue; insufficient food and clothing, etc. Therefore wherever a serious case of illness, or a long-continued ill-feeling occurs in a family, the cause of it should be looked for and a remedy or preventive applied. Persons living under the same conditions will be liable to the same diseases, and one case in such a family is likely to be followed by others.

Early stages of disease.—The early stages of any disease are not under the observation of a physician, and yet are of great importance. A loss of appetite, a feeling of general lassitude, flushing of the face, and wandering pains in the back and limbs, sore throat, sleeplessness,—in short, anything unusual in the appearance or feelings,—should excite attention. Neglect of these seeming trifles may make the difference between an unimportant indisposition and a serious illness. Therefore on the first appearance of such symptoms it is well to enforce rest, a long morning sleep, followed by a tepid sponge-bath and some light nourishment before dressing for the day. The simplest food should be eaten, and not much of that. No exercise should be taken, but as much fresh air as

possible by night and by day should be secured, and in all cases the patient should occupy a bed alone. It will generally be perfectly safe to give two grains of quinine in twelve hours. The bowels should be regulated, if constipated, by a simple enema of warm soapsuds. After a day or two of such treatment, should there be no improvement, send for the doctor; you have probably done all that he would have ordered so far.

Typhoid fever, a general infection caused by typhoid bacilli.

The principal characteristic is ulceration of the bowels, following the use of polluted water or milk, or fish feeding at the mouths of drains, etc. Premonitory symptoms may precede the disease by days and even weeks, and are such as restless sleep, headache, mental disquietude, nose-bleeding, cough, dizziness, pains in different parts of the body, hot, dry skin, and a general ill-feeling.

The fever finally announces itself with a chill, or long-continued chilly feeling, and the bodily temperature rises; from this moment whoever is acting as nurse will follow with the utmost exactness the doctor's orders, and will supplement them by extreme care in the following particulars:

Noticing symptoms.—Observe whether the patient talks in his sleep; is clear-headed when spoken to, but listless; has great thirst; a bitter taste in the mouth; a sore tongue; whether there is any rash on the abdomen, or whether the abdomen is puffed up; exactly what the character of the secretions is. Write down the bodily temperature morning and evening, and the rapidity and evenness of the pulse at a corresponding time. Observe whether the patient seems deaf; whether his breathing is labored, especially in his sleep, as if there were inflamma-

tion of the air-passages; whether there is retention of urine, constipation, or diarrhœa. Some or all of these symptoms will be present, and must be reported to the physician, since during his visits they may not be well marked.

Course of the disease.—Temperature.—During the *first* week the temperature rises daily, being lower in the morning than in the evening. In the *second* week it is continuously high, with little difference between morning and evening. In the *third* week the morning temperature is lower, but the evening one as high as in the second week. The *fourth* week, in favorable cases, shows a gradually lowered temperature in the morning and the evening, until they are both normal.

Pulse bears close relation to the temperature, full and strong, 90°–100° the first week, and in the two following ones rapid and feeble.

A sudden fall of temperature may mean hemorrhage from the bowels. During the whole course of the disease the nurse's attention must never be relaxed and the patient must not raise a hand unnecessarily.

Fresh air.—Keep the room in winter at 65°. Ventilate it with an open window and an open fire if possible; at any rate, keep the chimney open; let no draught blow upon the patient, but keep the air constantly changing. The atmosphere is filled with poisonous influences from the disease, coming from the skin, the breath, and the secretions of the sick person; and this poison must be removed by free currents of pure air through the room, but not over the patient,—from an adjoining room may answer.

The bed.—This should be protected with a rubber-cloth fastened tight across the mattress, then the under sheet, then the draw sheet, the upper sheet, and a light blanket

when needed; no quilt. It is a mistake to suppose that warm bed-clothing must be used and a free perspiration kept up. A *moist* skin is, however, very desirable, and will be more likely to be promoted by cool bathing than by warm bedclothes. On no account allow a patient to be put on a feather-bed; and when it can be secured, use only a small, rather hard pillow; with a large, easily compressed feather-pillow the head is kept too warm, and, sinking into it, the air is cut off from the lungs, which should have free play. Arrange the pillows in such a way that the chest is expanded, the shoulders being supported.

Cleanliness.—Three times a day or oftener sponge the entire body with warm or cold water as ordered, adding to a basin half full one ounce of alcohol, or give a pack, or tub-bath as the physician directs. (See Chapter V.) Carefully wash all the creases of the skin, particularly those parts which are soiled by the excretions. Neglect in this matter for awhile cannot be made good by after-care; bed-sores are particularly apt to form where there is not absolute cleanliness; and as there are frequently involuntary passages from the bowels, a careful watch must be kept both of the person and clothing, that everything may be clean and dry. Having made the bed and body clothing clean, every precaution must be taken to *keep* them so; for this reason use folded soft cloths about the patient and draw sheets across the bed; these are easily removed and changed without exhausting the little strength which you are trying to husband for the sick person. Besides the more general bathing, the face and hands must be repeatedly sponged during the day. Put a small piece of ice in a sponge and pass it across the forehead now and then. Dip a soft thin cloth folded once in some evaporating lotion like alcohol and water, and lay it across the temples, changing it before it becomes warm.

All this serves a double purpose,—it is cleanly, and it has a tendency to lower the fever which is consuming your patient.

Care of the mouth.—In neglected cases of fever a black crust will form across the lips and teeth, called sordes, a mixture of food, débris of skin, and micro-organisms; to prevent this, three or four times a day wash the mouth and teeth and tongue with cool water and a soft rag; if the skin is broken, add to a tumbler of water a teaspoonful of chlorate of potash or borax; if the skin is unbroken, salt and water in the same proportion, or a slice of lemon rubbed across the teeth and about the mouth will answer very well. Cooling and cleansing the mouth is of the greatest comfort to the sick.

Care of the room.—Besides the attention given to the patient and bed, care must be taken that the room and its furniture are scrupulously clean,—no soiled towels, napkins, or other articles must be allowed hanging about. Keep in the bedpan or vessel used, a disinfectant (see Chapter IX.), and throw a towel over it the moment you remove it from the bed, covering handle and all. The bacilli are said to be found in the fæces, and particularly in the urine, for several weeks after the fever has gone.

Changing the clothing.—The night-clothes must be changed morning and evening (it may be necessary to rip them down the back), and the sheets twice or more daily. Do this as directed (Chapter I.). When the strength of the patient will permit, he should be lifted into a fresh bed for the night, while the warm and damp mattresses in use all day should be carried out and aired.

Never allow your patient, even in the first week of fever, to get out of bed, to stand up, to turn over, or to exert himself in any way while clothing is being changed, or at any other time

By the use of a bedpan and urinal all need for exertion is avoided; a folded towel in a rubber-cloth can be used instead of the vessels.

Changing the position.—As the fever goes on there will be a disposition on the part of the patient to slide down in the bed and to lie in one position; watch against this, keep him well up on the pillow, lifting, *never* dragging; or pull sheet and all up and put another at the foot of the bed; turn him *very* slowly and gently from one side to another, putting both your hands under him, one at the shoulders and one under the hips. Never *twist* him, *move the whole body at once, slowly*; put a pillow snugly against his back to support him. These changes are necessary, because long lying in one position will make the spot on which pressure comes tender, and bed-sores may form. Examine the back and hips and heels daily for redness, and when it occurs bathe the place daily, four times, in alcohol and water; dry thoroughly; dust with powder, and use air-cushions.

Medicines, food, and stimulants.—In giving medicine you have only to follow your directions, and report exactly any change of symptoms observed following the dose, and the same with the stimulants.

In feeding, all your ingenuity will sometimes be needed to make the patient take the beef-juice, milk, etc. Generally if beef-juice is quite cold it will be taken more readily by very sick persons, and when there is a tendency to diarrhœa it should *never* be given warm; try the several preparations mentioned in Chapter VIII. The kinds of food that may be used are usually specified by the physician, and will be gruels, milk, beef-juice, etc. When brandy or wine is ordered, do not allow the doctor to leave you to your own judgment as to the quantity; request him to say how much of either he wishes given in

twenty-four hours, and then give it either as a cool drink with ice-water, or in milk, in broken doses through the specified time as he directs.

In case of faintness, or exhaustion after purging, or a chilly feeling that cannot be relieved by an extra blanket and hot bottles, a nurse is justified in giving on her own responsibility a tablespoon of brandy in a wineglass of hot water, slowly, to an adult, and a teaspoonful to a child.

Cold water.—If the physician has no objection, as much cold water as the patient wants to drink may generally be given with safety, if taken very slowly; it is needed to supply the waste through perspiration. Iced carbonic acid water, procured in siphons from the drug-shops, is better for quenching thirst, and is slightly stimulating. Thin, cold arrowroot, or barley or toast-water, iced, may be substituted if there is trouble with the bowels. Patients too ill to ask for water or cooling drinks must be given them frequently in a feeding-cup. Never commit the sin of letting the patient go without them. Small bits of ice are refreshing, but do not take the place of water. A cup of tea prepared as the patient likes it in health, and poured over cracked ice, is very refreshing and harmless. Sick persons frequently prefer to have the sugar omitted.

Delirious patients.—Never leave such a patient alone; a determination to jump out of the window is not uncommon in these cases. Never contradict what the patient may say; accompany him to the moon if he wishes it. Never speak loud to him; he is not deaf because he is delirious. Keep him in bed; if there is no other way, lay a long folded draw sheet across the blanket, and tuck it well under the mattress on either side. A slight delirium need not excite alarm, unless it is of the low muttering kind, accompanied with pulling at the bed-clothes or reaching of the arms up into the air after some

imaginary object. Confusion of thought, loss of recollection of recent events, an anxious look, and a wandering and vacant eye are to be dreaded.

Some of the dangers of the fever.—Diarrhœa, internal hemorrhage, perforation of the bowels, shown generally by sudden pain and collapse (send at once for the doctor), catarrh of the bladder, pneumonia, and heart failure are all to be dreaded, and guarded against by implicitly following the doctor's directions, by avoiding any check of perspiration through direct draught, by keeping the patient *perfectly* tranquil and quiet, and without mental or bodily exertion or excitement of any kind from the moment that the disease is declared.

During the second week sometimes, and even as late as the fifth or sixth, when everything seems to be progressing well, death may occur simply from incaution on the part of the nurse in permitting the patient to sit up or make some seemingly harmless exertion, resulting in heart failure, or to eat harmless food in too large quantities, distending the intestines.

In convalescence the patient's appetite is very large and must not be indulged. Give him nourishing food (not solids until distinctly permitted by the doctor), and give them in small quantities frequently; once in two hours if necessary. Dyspepsia is one of the accompaniments of typhoid fever, and more food than can be assimilated at one time is very dangerous; a moderate indigestion, a trifling constipation, a slight nausea, should therefore be at once reported to the doctor. It is dangerous, because any violent straining may induce perforation of the bowels at the point of ulceration.

The strength must be considerably advanced before going out-of-doors is permitted, but fresh air should be secured by free ventilation. When the doctor allows a

drive or short walk, only bright, dry days should be chosen for several weeks after convalescence is complete.

The temperature is not normal until it is 98.20 at night. In convalescence there is sometimes bone lesion, and more rarely "typhoid spine"; the nurse must report any uneasy feeling in the legs or ribs, and any hysterical symptom.

Scarlet fever or scarlatina.

When to the feeling of general illness which accompanies all fevers is added a very rapid pulse, 120°-130°, and a temperature of 100°-104°-105°, and there is a dry, hot feeling in the throat, with tonsils red and swollen and distress on trying to swallow, it is safe to suspect an infectious disease, and probably scarlet fever. The sick person should be isolated at once in a room as much apart from the other members of the family as possible, the higher up in the house the better, and the doctor sent for.

Contagion begins with *the rash*, which appears generally about the second day on the neck and extends over the whole body, the deepest color being on the neck, the outer side of the limbs, the joints, hands, and feet. The cheeks are a bright deep red. The case having been declared to be scarlet fever, all the precautions given for infectious diseases, Chapter IX., should be observed, and the smallest order of the physician strictly carried out.

Ventilation.—The room should be kept at an even temperature of 65°; light a fire, if possible, and leave the window down an inch at the top. Throw the window open and change the air entirely twice a day, covering the patient, head and all, at the time and until the room is again warm. Do not be afraid of fresh, dry, outside air, but be sure that no cold air is breathed, while you are airing, and warming the room again.

Bathing.—Give the patient daily a pack- or warm

sponge- or plunge-bath as directed, being very careful that he is covered with a blanket during the bathing, thrown over the bed or tub; dry quickly with warm soft towels without rubbing, and as the patient lies in bed, rub the entire surface of the body with vaselin or whatever oil the physician orders.

Bedclothing should be warm but never heavy; keep the feet and legs warm.

Food.—Gruels, simple broth, milk, etc., are generally enough. Where there is exhaustion from the fever the doctor will give orders as to strong and stimulating nourishment. Abandon the notion that the fever is increased by such food; life will depend upon its careful administration. Cold water or weak lemonade may be given freely unless the doctor orders differently.

Quiet.—Keep the patient strictly in bed; make use of bedpan and urinal to prevent getting up. Guard in every way against a check of perspiration. If the patient is propped up in bed, see that a short jacket or small shawl is put over the night-dress, but use nothing that cannot be washed.

Things to watch.—Notice the breathing at night or in sleep, whether it is even and deep, or short and labored, as if there were trouble with the air-passages. Be particularly watchful of the condition of the excretions, especially of the urine; should it become scanty or smoky-colored, report it at once to the physician. Observe whether there is a free, though seemingly harmless, discharge from the nose; this may indicate diphtheritic trouble. See whether there is any swelling of the limbs. In short, there is nothing which must not be observed with care and reported accurately to the doctor.

Peeling.—The skin becomes dry, and generally begins to scale off about the fifth day after the rash appears. No

patient should be allowed to leave his bed until this process is completed. The warm baths should be kept up, and the temperature of the room allowed now to be 70°. After the peeling is over the patient should still remain in his room for two weeks, and should be separate from other members of the family not less than a month from the commencement of the disease. Very severe cases of scarlet fever may follow from exposure to light ones. See that the patient is well wrapped up, with hands and feet protected, on first going into the open air.

The dangers from scarlet fever.—The troubles which may arise out of an attack are frequently the result of carelessness on the part of the nurse, neglect of orders, exposure to cold, etc. There cannot be too much care taken of the lightest case. A bad attack will compel attention, but “slight cases,” so called, are often neglected, with fatal results, or life-long deafness or other disability. Dropsy, malignant sore throat, diseases of the kidneys, weakness of the heart and lungs, pleurisy, and many other maladies lie in wait for the scarlet fever patient.

Smallpox.

All children and adults in an intelligent community are, of course, vaccinated; but it is safe to repeat the process whenever there is any alarm about recent and neighboring cases of smallpox.

Symptoms.—The disease generally begins with a chill, followed by quick pulse and high temperature,—104°–106°. The distinctive symptom, however, added to these, is severe pain in the back and pit of the stomach, which increases on pressure. These troubles may abate for a while, but they gradually increase, and are at their height on the third day, or twelve days after exposure to the contagion. The eruption begins about this time, as small

pimples, spreading from the face to the neck and chest and back, and then to the limbs and extremities. The pain passes off when the eruption is developed, and the patient feels pretty well; but the discomfort will increase again as suppuration begins, and the secondary fever, sometimes announced by a chill, comes on. The temperature rises to 105° – 106° .

The nursing.—The fever and the eruption go hand in hand, and although the patient may feel some relief on the appearance of the pimples, he is to be treated as a very sick person through the whole course of the disease.

Keep the room dark on account of the eyes, which suffer, and ventilate it fully with open windows. Let its temperature be 60° – 65° . Let the bed-covering be sufficiently warm, but not heavy.

Give broth, gruels, milk, etc., as food, and cold water or lemonade to drink. If cold compresses are ordered, re-wet them by pouring fresh water over the cloths frequently.

Scars.—The eruption has to take its course, but various ways for preventing scars are prescribed, such as keeping the face covered with oil, or, better than this, having strips of thin linen spread with simple cerate and fitted carefully over the face. Whatever applications are ordered, they are to be faithfully used, and the patient is to be prevented from scratching the surface, even in his sleep. To accomplish this, it will generally be necessary to tie the hands up in soft cloths, so that at least the nails may be kept from the face. When there is delirium or unbearable irritation, the only thing to do is to use a shirt with very long sleeves, which you tie together at the wrist.

Dangers in the disease.—Watch all the symptoms carefully, and report promptly any light-headedness, sudden exhaustion, or difficulty in swallowing; notice the manner

of breathing and sound of the voice. Pleurisy and laryngitis are among the complications which may occur. If during the decline of the eruption, and while the secondary fever is in progress, there is a clammy sweat and sudden sinking or tremor, give wine-whey or a half-ounce of brandy, without waiting for orders. If the pustules sink or change to a purple color, give the brandy in hot water, or some hot spiced drink freely. In either case, let the doctor know at once of the symptoms. In general follow all directions exactly, and report any changes carefully.

The Room.—The carpet should be taken up the first day that the disease is recognized. The mattresses will already have become infected, and must not be changed. The door must be locked, and no communication had with the room except through an adjoining one, where the window is down at the top and a fire, if possible, lighted.

When things are required,—food, medicines, clothing, etc.,—the request for them should be written on a slate, which should be hung or stood where it can be read without taking it down. Whatever is ordered should be brought to some place agreed upon, and left for the nurse to carry to the room. All bed and body clothing must be of the oldest kind, so that it may be destroyed when done with.

When this clothing is changed it must be thrown by the nurse into the disinfectant for clothing given (Chapter IX.), and which is kept standing in vessels in the adjoining room for the purpose. Wooden tubs, which can be broken up and burned afterwards, are best. The clothing should soak twelve hours. It can then be dipped out with a stick and put into a strong hot soapsuds made with carbolic soap, and when so rinsed for two hours may with safety be wrung out and made into bundles, and tossed

out of the window into the yard to be dried in the sun. The articles can now with safety be ironed by any one. The nurse or her assistant should do the preliminary soaking and rinsing, both of her own and the patient's clothing and bedding. Only those engaged with the case should handle articles used about the patient. Cups, tumblers, spoons, etc., must be kept for the case, and washed by the nurse. They should be destroyed later.

The nurse must protect herself by vaccination, by cleanliness of clothing, by good food, and sufficient rest, being relieved by an assistant, if possible. If it is essential that she should leave the house, she must keep a suit of fresh clothes for the purpose.

After the disease the mattresses may be rolled in fresh, clean sheets and given to the pest-house; or should there be no such place at hand, they must be rolled up and burned in some convenient place. Should there be a board of health in the town, it is their duty to dispose of the beds and direct the disinfecting of the house and room. All blankets must share the fate of the mattresses and pillows. The entire room and its adjuncts should be cleaned after disinfecting, as directed (Chapter IX.).

There is no disease more contagious than smallpox; it has been conveyed by infected articles carelessly put aside and opened years afterwards.

Chicken-pox.

This is a harmless though annoying trouble. It is accompanied with a little fever and general discomfort. Keep the child housed,—separated from the other children; let the air of the room be fresh, and the temperature even, at 65°–70°. Give broth, gruels, and milk for the first few days. The eruption begins on the first to the third day, and is thickest on the back and breast. Let the

clothing be loose, so that there may be no irritation from rubbing. Keep the child from scratching,—a soothing lotion on lint can be applied. The trouble will be over in two weeks or less. The room, bed, and bedding must, of course, be well cleaned and disinfected.

Measles.

This disease begins like a severe catarrh, and with a redness and tenderness of the eyes, the light being painful to them. There may also be a croupy cough. The temperature rises to 103° – 104° , and the rash appears. Do not try domestic treatment; always send for the doctor. Warm drinks and a warm bath help in developing *the rash*, which appears on the third or fourth day, and commencing on the face, about the mouth and eyes and neck, quickly spreads over the whole body.

Nursing.—The care of measles does not differ materially from that of scarlet fever; it is a much less malignant disease, however, and if the necessary precautions are observed will pass off generally in two weeks. Fresh air, even temperature, tested always by the thermometer, and *not* by the feelings of the nurse; warm bathing daily; great care against getting chilled; simple food, without solids, for a while; cool water to drink, and a room shaded from any bright light, are all-important in the care of the case. The patient must be kept in bed as long as there is any indication of fever. All clothing when changed must be aired and warmed. Until the eruption has faded out like care must be taken. Exposure to draught and cold may bring on pneumonia. As long as there is any trace left of the measles-catarrh the patient must keep in his room.

Dangers in measles.—The disease may bring on or leave behind it pneumonia, bronchial catarrh, capillary bron-

chitis, and inflammation of the middle ear, and for months after seeming recovery the slightest disposition to cough or cold or earache should be brought to the attention of the doctor. The contagion is by the breath and secretions, especially from the nose. It may be conveyed by a third person and by fomites.

Rubella, or German, measles.

A contagious disease, differing from measles, accompanied with a sore throat, little fever, and a rash on the first or second day, appearing on the face and chest, and in twenty-four hours over the whole body; round or oval slightly raised spots, and brighter red than measles; lasting longer than in measles, and leaving a slight stain which disappears. Keep the child in bed, not because it is very ill, but to prevent it from being so by exposure. Warm sponging may be comfortable. Give a simple food for a few days.

Acute Bright's disease

may be one of the effects of a congestive cold, and also may result from the special poisons of eruptive and other fevers, and may follow burns and over-dosing with certain drugs, so producing congestion.

Symptoms.—Chilly feeling, pain in the back, slight rise of temperature, and, when the result of cold, there may be dropsy, showing itself in puffy face and ankles.

The urine may be at first lessened to four or five ounces a day; it undergoes certain changes, and shows blood and albumin. The exact condition is known by analysis, and the nurse must keep half a pint for testing (secured as directed in Chapter III.), as soon as she is called.

Nursing.—The patient is to stay in bed. The night-clothes should be gauze flannel. It is not necessary that

this should be all wool. Active perspiration has to be promoted and no chill from cool night-shirt or bedding can be allowed. Warm poultices are sometimes ordered when there is suppressed urine; the bowels should be regulated if necessary by cathartics. *Baths* or *hot pack* may be ordered (Chapter V.). After these keep the patient wrapped in blankets. Sweating will be profuse but not harmful. Dropsical symptoms are lessened by this treatment.

The diet should be confined to milk chiefly, given warm or cold, but gruels of oatmeal or barley water and cereals may follow. Give freely mineral waters, plain water and lemonade. When convalescing, lettuces and fruits, and bread and butter may be used. The physician will order such diuretics as he desires. The patient should be encouraged to take them freely. The nurse must not wait to be asked for a drink.

In first sitting up great care to avoid taking cold or getting a check of perspiration will be needed. The feet and legs as well as shoulders must be covered with blankets and draught prevented.

Pleurisy

is the inflammation of the pleura or serous membrane which lines the walls of the chest and covers the surface of the lungs. It is moistened with a secretion which may increase in the disease. If this is simply serum it may be absorbed or drawn off by what is called aspiration, a simple operation and practically without risk.

Pleurisy may come on gradually with the usual symptoms of a feverish attack, or it may begin with a sudden chill followed by fever and severe pain in the side. If leeches are ordered or mustard-plaster, see Chapter V. Strapping the side with long strips of adhesive-plaster

sometimes is advised to relieve pain. The vapor bath is sometimes prescribed to act upon the skin and relieve the kidneys. The diet will be ordered by the physician. Liquids are generally restricted.

If the secretion is mixed with pus, the situation is grave and is called empyema. Aspiration, or an operation as for abscess, may be required, when all the usual precautions in surgical nursing will be necessary. To close the cavity after operation certain exercises for the lungs are prescribed, filling and emptying them by the use of "Wolff's bottle." The nurse will receive her instruction for this, and will see that the patient carries out the treatment.

Acute bronchitis.

Catarrhal inflammation of the bronchial mucous membrane. When it affects the smaller bronchial tubes it is called capillary bronchitis. The disease comes on like an ordinary cold; there is heaviness and languid feeling and pains in the back and legs; there is dry cough at first, and then increasing expectoration. *The sputum* is made up of pus cells and should be disinfected in the sputa-cup (see Chapter I.). Sometimes in the first stages a hot foot-bath, warm drinks, mustard-plaster, and bed are enough. If these do not improve matters send for the doctor, particularly if the patient is a child or an old person. If the nurse notices that the expectoration is difficult while the amount seems large, and the child's face becomes dusky, she should give an emetic promptly and notify the doctor. A teaspoonful to a tablespoonful, according to the age of the child, of ipecac (wine or syrup), may be given.

The diet should be light. Keep the room at an even temperature, and air through another room; after airing and warming again, *that* room.

Membranous croup

is a very dangerous and usually fatal disease of the throat, characterized by inflammation of the mucous membrane lining the larynx and trachea, and in which there is an effusion of fibrin, which coagulates on the mucous surface and forms a false membrane, diphtheroid in character in nine-tenths of the cases. The disease in its commencement is sometimes mistaken for the simple form of croup. The child may wake suddenly with a croupy cough and strangling fit; or, in other cases he may not seem well. There may be all the symptoms of cold in the head for a day or two, and the trouble may pass for that until the doctor is called too late.

Membranous croup, however, unlike the simple form, is accompanied from the first with fever, and here the clinical thermometer shows its value for families of children; the fever can be detected at the outset and its gradual increase known. If the cold in the head continues, and the thermometer, having been applied morning, noon, and night for one day, shows a gradual rise in the temperature, especially if it is a little higher on the morning of the second day than on the morning of the first, do not wait for the child to be really ill before taking active measures. Keep the patient in the house, and in one room for a day, being careful about exposure to draughts. Omit the plunge-bath; sponge carefully instead in tepid water, and dry quickly with warm towels. If the breathing is oppressed, give half a teaspoon to a teaspoon of ipecac, and repeat in twenty minutes; and should no improvement follow, and should the temperature still remain high, send for the doctor without waiting for croupy sounds.

The symptoms which follow the increased temperature in membranous croup are loss of appetite, thirst, quick

pulse, husky voice, gradually diminishing to a whisper. The breathing comes as a sort of whistle, with increasing effort, and there is constant restlessness.

The nursing will consist in keeping up assiduously whatever remedies are ordered, and in sustaining the strength as long as possible. The atmosphere of the room will be ordered kept either dry or moist; whichever plan is decided upon must be rigidly adhered to: no change in this matter is admissible when the treatment has once begun. To secure moisture tea-kettles of water may be kept boiling in the room over spirit-lamps if there is no other way. When there is a fire or heat from a furnace, sheets should be wrung out in water and dried in the room. The child can be easily made to inhale vapor from a steam nebulizer or kettle; it can be introduced at the small end of a funnel made of stout card-board, and slipped over the nozzle, the larger end being put near the child's face, but without touching it; the delicate skin is easily burned by the steam. A sleeping child will in this way take in the vapor even better than when awake. Disinfecting fluids are applied with a swab of cotton wool and by irrigation, sometimes through the nostrils. When applied the nurse will have to roll the child in a small blanket tightly, to keep its arms quiet. A cork must be put between the back teeth, and with the child's head resting on the nurse's shoulder the application is made by a second person. Antitoxin treatment will probably be given.

The pillows must be arranged so as to lift the shoulders and expand the chest. The child's chin must not press upon its chest.

But little food can be taken, and consequently that must be of the most nourishing kind. Beef-essence, milk-punch, milk with the white of an egg in it, one egg to

every half-pint, well shaken. Give cool wine-whey as a drink, and water without ice. Lift the child and ease its position. It may be taken out of bed and held upright in the arms, or carried about the room. Keep up till the last moment the treatment ordered. *Intubation* is, as a rule, resorted to. The mouth being held open, a tube is introduced into the windpipe. Be careful always not to inhale the child's breath or to run risks from particles of membrane which may be coughed up suddenly into the mouth, nose, or eyes of the nurse.

The last resource in cases of this kind is tracheotomy, an operation on the windpipe, opening a passage to the lungs below the point at which the membrane has formed. The results of this operation are often so unfavorable, and so large a proportion of children die in spite of it, that no parent need feel that the child was lost because it was not attempted. If all the precautions have been taken, and the doctor's orders strictly followed out, there is no need for self-reproach whatever the result may be.

Tracheotomy.—The operation having been decided upon, get ready quickly a firm, small table, which will easily hold the child, and from either side of which the doctor can get at him; a flat, low pillow or sheet folded up small for the head; a narrow piece of tape, scissors, needle, and strong thread. (See Chapter VI. for further directions as in other surgical cases.) Have at hand a fan. Loosen everything about the child's throat and chest; slip his arms out of the sleeves; and see that all the light that can be had is thrown upon the table. Wash the surface quickly with soap and water and sponge with alcohol. Remember that the child is choking, and be very prompt.

While the doctors are at work get ready a fresh, warm night-dress and flannel wrapper for the child, and put the

bed in order. The operation successfully performed, and the tube introduced, the child who a moment before was choking to death sits up, breathes freely, and all the terrible symptoms pass off for the time. The danger is by no means over. Constant care must be taken to keep up the treatment ordered, and medicines and food regularly given. Above all, the tube must be kept perfectly clean and free from the membrane which will be deposited in it. Once in an hour, or two at most, remove the inner tube from the outer case and throw it into a basin of warm water. A strip of soft linen must be pushed through it with a stick so as to drive out every particle of the deposit. All membrane found in it must be left in the basin for the doctor's inspection; have two basins, keeping one for this purpose only.

The edges of the wound must be watched, and the slightest tendency to formation of membrane reported. The creases of the skin under and about the tape which holds the tube in place must be oiled to prevent chafing. Take care that the skin is not broken or irritated on other parts of the body as well.

Take special care that the mouth of the tube is not obstructed by the clothing or bedding, or any particle of dust or fluff, and that no drop of water is spattered into it.

Four or five days will determine the result. Recovery even after the utmost care is the exception. The membrane forms below the wound or in the lungs, and suffocation follows.

Cases of bad croup may indicate faulty drainage, or other contaminations of air or water; and attention must be given to these matters when the disease occurs.

All the other children of the family should be kept as far as possible from the room, and special care should be given to their general health; their food must be nour-

ishing, their clothing warm, their sleeping-rooms well ventilated; and when there is any disposition to sore throat, it should be reported to the doctor. They should on no account see a child that has died, or return to the nursery until all the precautions for disinfecting and cleaning have been taken.

Diphtheria.

An infectious disease characterized by the presence of a specific bacillus and an exudation which forms as a membrane on the mucous surfaces. The disease begins, like so many others, with a feeling of general depression and feverishness; there is what seems like a cold in the head, a hoarseness, slight difficulty in swallowing, stiffness of the neck, and *swelling of the glands* about the throat; when this swelling occurs, send for the doctor without waiting for other symptoms than those given. White patches on the tonsils and back part of the throat will follow if diphtheria is really present. On suspicion of the disease isolate the patient and keep him in bed; allow no one to come into the room except one attendant. Keep the thermometer at 65° – 70° . Light a fire if possible, put the window down at the top two inches or more, and keep it so day and night. Send for chlorate of potash, and dissolve as much as you can in a tumbler of tepid water, to be used freely as a gargle. Give the patient as much milk with the white of an egg in it as he will drink, in the proportion of one egg to half a pint. These precautions will probably save the patient from more severe sore throat if his trouble is not really diphtheria, and should this alarming disease have overtaken him, you will have done all that you can do without further instructions. From the moment that you receive the doctor's orders in a case of diphtheria, carry them out as

if life depended upon you alone. Never relax your efforts to give medicines, food, and stimulants, no matter how hopeless the attempt seems to you; and do not be betrayed into carelessness by what you think an abatement of the symptoms. Use all precautions against the spread of this contagion.

Discharges from the mouth will probably be excessive; clear them away as quickly as possible, using only soft rags which can be destroyed. Wash the lips and chin which are touched by the discharge with the chlorate of potash now and then; keep them covered with vaseline or a little oil; examine the skin everywhere, and if broken or chafed, treat in the same way. The membrane is liable to form wherever the skin is broken.

Throw all soiled rags directly into the fire, if there is one in the patient's room; if there is none, put them in a covered jar or pail in which there is an ounce of chloride of lime and a gallon of water; let them soak until they can be carried away in the jar and burned in the open air.

The early use of antitoxin serum lessens all the bad symptoms within twenty-four hours.

Food.—Give only concentrated food; egg-nogg; custard made thin enough to drink, one egg to half a tumbler of milk beaten up and uncooked; plenty of milk, etc. Nourishing enemata will be ordered if necessary. Give the food once an hour, and oftener if the strength is failing. The doctor will direct this; ask him about it. If brandy is ordered, give it in milk; that is so much more nourishment supplied. Wine-whey can be freely taken if stimulants are allowed, and given cold it is very refreshing.

If the atomizer is to be used for throwing spray into the mouth and nose, hold it at a distance, if the patient is a child, until he becomes a little accustomed to it. If irri-

gation with disinfectants is required, wrap a sheet close about the child to prevent struggling.

In convalescence the care is not to be relaxed; the patient is not to leave his bed for any purpose, or even to sit up in it until the doctor has given permission. Paralysis of the heart may result from want of care in this matter. Sudden deaths *in convalescence* from diphtheria are not uncommon.

The food may be gradually changed as the patient improves; when meat is allowed, cut it small; the throat and the power to swallow are affected for a long time afterwards in some cases by partial paralysis.

The nurse must protect herself by not inhaling the patient's breath, by avoiding the nasal discharges, or risks from the sudden coughing up of mucus or membrane; she must have nourishing food and sufficient rest.

Before taking another case of any illness, she should be sure of the condition of her own throat; seemingly healthy throats may acquire and convey the bacilli. For room disinfection, see Chapter IX.

Whooping-cough.

The disease begins with symptoms of an ordinary catarrh, lasting from ten to fourteen days, and then the peculiar cough commences. The paroxysms are more severe at night than during the day. During the spasm the child should be lifted up, and given as much air as possible.

The disease is more serious than generally thought. A physician should be consulted because of complications which may arise. Trouble from determination of blood to the head, and bronchitis are not uncommon, and heart-strain, shown by swelling about the face and eyes.

Regulate the diet, give the child unstimulating food,

and keep the bowels moderately open. Let the clothing be warm in cold weather, protecting the chest and arms. Keep as even a temperature as possible, the air of the room at night being no colder than that in which the day has been spent. Do not send the child out of doors on windy or damp days, but in favorable weather *keep him out all the time*. When with young children during the course of the disease a squint is noticed for the first time, or there is a convulsion or stupor, send for the doctor: and in the case of the convulsion, give a warm bath while waiting, and apply cold cloths to the head. Should it be noticed that the cough becomes more frequent and the expectoration less, the breathing between the paroxysms difficult or panting, while the whoop gradually ceases, it is probable that there is inflammation of the air-passages, and the child needs immediate care. The ordinary course of whooping-cough is from six to twelve weeks.

Pneumonia

is the most fatal of all acute diseases. It is an inflammation of the proper substance of the lungs. The disease generally announces itself with a chill or chilly feeling, which lasts from half an hour to an hour or two before a sensation of heat can be produced. The temperature will rise on the first day, and sometimes reaches 103° – 105° . There is pain in the back and loins, and loss of appetite and flushed face. The first decided symptom of pneumonia will be shortness of breath, so that only short sentences are spoken without the need of breathing, and there is a “stitch” in the side. Do not postpone sending for the doctor, especially if the patient is old, feeble, or a child.

Nursing.—Keep the temperature of the room the same night and day, and at 65° – 70° ; do not let it become

cool and then try to remedy this by excessive heat, and, equally, do not let it be overheated and then cooled. Change the night-dress morning and evening, keeping two in use; warm all the bed and body clothing when changed; flannel night-gowns must be worn. Use warm water for bathing the patient, and keep him covered during the process, drying at once with warm soft towels. Never turn back the bedclothes so as to expose the patient, even for a moment. Keep him well supported by pillows under the shoulders, the breathing is easier for this support. Put an extra wrap about the shoulders which are exposed by this position. Take care that the feet and legs are warm, and guard in every way against draughts and check of perspiration. The bowels and kidneys must act freely, bedpan and urinal being used. Keep the mouth and teeth clean as in all fevers, and do not allow the patient to make any exertion. Heart-weakness is the serious complication. There must be no talking and no visitors.

If a jacket- or ice-poultice or leeches or baths are ordered, see Chapter V.

Things to notice.—Watch the expectoration; use a sputa-cup in which is a disinfectant. There will probably be an iron-rust color or clear streaks of blood in the mucus. Keep the expectoration for the doctor's inspection; at the commencement of the disease the cough is without expectoration, which becomes freer after the crisis. Observe the breathing during sleep, and whether the patient feels pain when lying in one position rather than in another. Notice the character and quantity of the urine, and report all these things to the doctor. All the symptoms will increase in severity during the first week, and the critical day will, in ordinary cases, occur at its end. The amount of food taken will be very small,

while the strength will be greatly reduced by the progress of the disease; it is therefore necessary to give the most nourishing articles in concentrated form,—milk, with white of egg, custards, beef-essence, strong chicken-tea, egg-nogg, etc. If lemonade is allowed, make it by using flaxseed-tea *thin*, cooling it, and adding the lemons and sugar. Wine-whey is suitable and nourishing as a drink. Ask the doctor for further directions as to feeding, and whether the drinks shall be cold or warm. Give water freely and a mixture of Vichy or carbonated water and milk to dilute the blood. The patient should have a little food at short intervals. Not more than two hours should pass without it, if there is much weakness. When solid food can be taken, let it be very tender mutton or beef. Sandwiches made very small and thin, of *raw* beef scraped, and a saltspoonful of potted ham or tongue added, will sometimes be taken, and with a glass of milk will make a nourishing meal.

Cholera morbus.

The disease is caused by the use of indigestible food, stale meats or fish, impure drinking-water, etc. There is vomiting and purging of liquid matter and bile in quantities. Violent pains in the stomach, cramps of the legs and muscles of the abdomen, coldness, faintness, and tendency to collapse. The attack comes on suddenly, and a physician should be sent for at once, especially if the patient is an old or feeble person.

Nursing.—Do not at first try to check the vomiting and purging, nature is in this way getting rid of an irritant; but should the skin be cold and the pulse feeble, give a tablespoon of brandy in a wineglass of hot water. To relieve the pain, put a mustard-poultice over the bowels, mixing it with *hot* water; or wring out a flannel in hot

water, sprinkle it with oil of turpentine, and apply. The turpentine will blister as soon as mustard, and must be watched. Rub the legs vigorously if there is cramp, and keep the patient in bed, with hot bottles at the feet, should they be cold. The attack is very seldom fatal, but is prostrating, and light but nourishing food will be necessary after it: milk and rice gruel, strong broth, and eggs, if allowed, etc. The return to solid food must be gradual. Should the bowels not move readily, an enema of warm water and olive oil will probably be ordered.

Diarrhœa.

The word signifies to flow through, and the disease is characterized by profuse discharges from the bowels. The trouble may be brought on in various ways, the commonest being imprudence in eating or drinking. Unripe fruit, badly-cooked vegetables, impurities in drinking-water, over-fatigue, and sometimes grief or fright, may produce the disease. Perfect rest in bed, and fasting entirely for a day, will generally result in a cure. This gives the stomach time to rid itself of the irritating substances, and the intestines are rested by having no work to do during the fast. Fresh food should never be put on top of that which is causing the trouble. When, after the rest, the patient begins to feel hungry, give well-boiled rice and milk, or corn-starch gruel, or arrowroot, and return slowly to solids. Should the trouble continue in spite of this treatment, and especially if the weather is hot and debilitating, a physician should be consulted. Liquids for a few days should be given in small amounts at a time.

Chronic diarrhœa

generally means ulceration of the colon, and enemata are ordered, given high and very slowly from a siphon-bag.

The food has to be very carefully regulated. Milk can not always be given. Eggs or the white of eggs in water may do for a while. Change of air is advised and entire rest. The trouble sometimes follows dysentery. The nurse must keep the evacuations from the bowels for inspection; their character will determine the treatment.

Dysentery.

The disease is inflammation of the mucous membrane of the larger intestines.

Symptoms.—These are griping pains in the abdomen; blood discharged from the bowels; constant desire to use the night-chair; and straining. Some of the worst forms of dysentery commence with diarrhœa. Always consult a physician.

Nursing.—Keep in the vessels a disinfectant. Every evacuation should be at once carried from the room. The air must be kept fresh by free ventilation. Change the sheets and clothing daily. If an enema is ordered, it will probably be a high enema of some solution given very slowly, the quantity to be specially ordered. Put a *wide* flannel bandage round the abdomen. Keep the patient flat on his back and perfectly quiet until all traces of the disease are gone. The food should be boiled milk given *cool*, or simply uncooked milk; and gruels of corn-starch or rice-flour or barley, not too hot. Nothing more stimulating than this should be given without the doctor's permission.

Give all medicines promptly. Some physicians direct that very cold drinks should be avoided, while others order cracked ice. Ask for orders in this matter.

Gastritis.

Gastritis is inflammation of the mucous membrane of the stomach, causing pain of a burning character at the

pit of the stomach, vomiting on eating or drinking, and sometimes hiccough. The pulse becomes small and feeble; the patient is pale and faint, with cold extremities and damp skin; the movements of the diaphragm cause pain, and consequently the breathing is short; there is tormenting thirst at times, although the water drank is vomited at once. The disease may be brought on by taking any substance into the stomach which is in itself poisonous, or becomes so because of the particular conditions under which it is taken, as quantities of cold sour drink taken when the body is very hot and there is perspiration: large amounts or great variety of food taken at one time, when the constitution is feeble, or there is convalescence from serious illness, such as typhoid fever, may produce the disease; and it is sometimes brought on by imperfect mastication of harmless food. The doctor should be called on the appearance of the symptoms, and his directions implicitly followed.

Nursing.—Keep the patient at rest, absolutely, in bed. If cold water can be retained, it is safe to give it as a drink. If enemas are ordered, give them gently, and disturb the patient's position as little as possible. The feeding will sometimes be left to the judgment of the nurse, with the general direction to give food in small quantities; and here the nurse should understand that when the doctor has done all that he can, the life of the patient will not infrequent'y depend upon her patience and prudence in administering food.

If there has been vomiting and inability to retain any food, do not offend the weak stomach with the quantity or quality of what is offered. Confine the diet to milk diluted with lime-water, two tablespoons to a half-pint of milk. This will give you all the nourishment you need to begin with.

Give a teaspoonful once in half an hour. If it is kept down for two or three hours, increase the dose to a dessertspoonful. Gradually increase the dose and lengthen the interval until two tablespoonfuls can be taken every two hours. You will have made a great gain by this time, but do not be in too great a hurry. On the slightest feeling of nausea, or belching of wind, omit the dose until the sensation has gone by. Fasting for a day or two will do no harm.

If you can by slow degrees, after one or two days, bring your patient to take two ounces of milk and lime-water, once in two hours, you may safely continue in this way for several days, feeling sure that he is getting considerable nourishment under the circumstances. It is sometimes better to shorten the interval between the doses than to increase the quantity too suddenly. From milk you may gradually go to thin gruel, made *very smooth*, of rice-flour, arrowroot, or corn-starch and milk. Any further change must be made only with the permission of the doctor.

When the patient is able to drink from a cup, put the amount for one time into a small wide-lipped one, with a handle; and raise the patient a little by passing your arm under the pillow. Where a sick person cannot be lifted a glass tube is very useful, through which the milk can be sucked. Keep the patient's feet and hands warm, and observe all the ordinary rules as to pure air and even temperature.

Acute peritonitis.

The disease is inflammation of the membrane which lines the abdominal cavity and covers its enclosed organs, and is usually caused by diseases or wounds of the abdomen, or of these organs. *Very rarely*, it occurs in

previously healthy persons from simply catching cold. Over-exertion, straining in lifting heavy weights, sudden blows or kicks, may bring on the inflammation.

Symptoms.—These generally begin with severe pain at the seat of the injury, and a feeling of great depression, commonly followed by fever. The pain is, however, the most characteristic symptom, and is increased by any pressure, even that of the bedclothes on the abdomen. The patient lies on his back with his knees drawn up, and is afraid to speak and almost to breathe. The abdomen is puffed up, the intestines being filled with gas, or it may be entirely flat and rigid. There is sometimes obstinate constipation, and sometimes continued vomiting. All these symptoms become very decided in a few days, and whether the patient is to die or live can generally be determined in about a week. If by that time the pain, temperature, and pulse subside, there is ground for hope. The pulse and countenance are important indications as to the severity and extent of the inflammation.

The nursing.—There will be but little to do beyond keeping the room well aired, its temperature even, and giving all the medicines promptly. See that the patient makes no effort whatever to relieve the bowels or to use the urinal frequently. The uncomfortable desire to do so is due to pressure caused by distention of the intestines. If cold applications are ordered, use a pocket-handkerchief squeezed out in cold water and applied very gently; cover it with very thin rubber sheeting or oil silk, and re-wet it always before it becomes warm. Great mischief frequently arises from carelessness in this matter; it is better not to apply the cloth than to allow it to become warm.

If the patient can bear ice, half fill an oil-silk or rubber

bag with it, pounding it small. The bag must be large enough and the ice fine enough to mould themselves to the abdomen. Snow is better than ice when it can be obtained. The weight of the bed-clothes must be taken off by the use of a cradle. The patient's feet and knees can be kept warm, if necessary, with a separate wrap.

Should opium be ordered, watch the breathing, counting the respirations, and keeping strictly to the dose ordered. If exactness in giving medicines is of great importance in other cases, it is doubly necessary here.

Should convalescence take place, there will be opportunity for nursing, and too much care cannot be given to the regulation of the patient's diet and times for eating. He must eat very sparingly at first,—milk is enough,—and return to solids only with the doctor's permission. If vomiting is troublesome, small nourishing enemata should be substituted. Surgical treatment may be needed, and a surgeon should be called in consultation at the commencement of the disease. Flannel must be worn next the abdomen. Too early exertion for any cause might easily produce a relapse after convalescence has begun.

Mumps.

The disease is inflammation of the parotid gland; it is painful but ordinarily not dangerous, attacking young persons chiefly, but rarely occurring in children under one year of age. It is infectious and sometimes epidemic.

Symptoms.—There may be for several days a languid feeling and severe headache, and the trouble is recognized later by the pain under one ear, which is worse on opening the mouth or chewing; a swelling is found in the parotid gland, just under the ear, which gradually pushes out the lobe of the ear, and is soft and doughy. It may appear on one side only, or on both in turn. At its

height the patient can hardly move the jaw or speak. There is some fever with the disease, but in from two to five days all the symptoms subside.

The nursing.—There is little to do beyond keeping the patient in his room and regulating the bowels and digestion. Cover the swelling with wool-wadding, covered with oil silk. Let the food be light and easily-eaten articles,—broths, gruels, eggs, and other soft things. Take no one's advice except the doctor's. Send for him, because of complications which may arise. If the swelling is hard and pulsating, the doctor should always be consulted, as the ear may be involved and the hearing impaired.

Sore throat.

Slight sore throat is a very common accompaniment of indigestion, constipation, and colds. Regulate the bowels; eat light food for a day or so, avoiding solids; gargle the throat with chlorate of potash—as much as a tumbler of tepid water will dissolve; stay in-doors and at rest for a day; avoid hot, unventilated rooms by day or night; keep the feet warm; use cold water freely about the throat every morning, dashing it over the neck, and wring out a crash-towel in strong salt and water, and rub the throat and chest well. The sore throat will probably vanish in a day or two with this treatment. Should it not, and if there is a feeling of increasing feverishness, the doctor should be consulted.

Cerebral apoplexy

is caused by rupture of blood-vessels, or an effusion of blood into the tissues of the brain. No age is exempt from it, though it is more common after than before forty.

Symptoms.—The attack comes either as a sudden

seizure, the patient falling to the ground without warning, and lying without sense or motion; while the face is flushed, the pulse free, and the breathing noisy, as in a deep sleep; death may follow at once or the patient revive from this attack; or, there are warnings of the disease, such as sudden sharp pain in the head, with confusion and dizziness; the patient slides to the ground, and is pale and faint; from this condition he revives for awhile, but in a short time, varying from a few minutes to an hour or so, he falls into a stupor and never wakes up. The second form of the attack is more serious than the first, though less alarming in the beginning to the lookers-on. There is no question about sending for the doctor, —of course you do so in either case at once. Until he comes, with the first set of symptoms, flushed face, etc., put the patient in a half-sitting position, shoulders and head raised; apply cold cloths to the head, and loosen everything tight about the throat and body; keep the room cool and quiet.

In the second set of symptoms the head and shoulders are raised as in the first, but the patient's skin being cold you apply hot flannels to the legs and feet; give free ventilation, and if it is possible to make the patient swallow, give slowly from fifteen to twenty drops of aromatic spirits of ammonia in half a glass of water. This is all that you can do without medical advice. If the patient comes out of the attack, his diet for the future must be unstimulating. No beef or rich soups; other meats may be eaten moderately and all farinaceous articles. No malt or spirits are allowable.

Exercise must be taken daily without heating the body; no exertion made which flushes the face; and no cold or hot plunge-bath is allowable. Sponging in tepid water is best, and the head is to be kept cool by daily sponging

with cold water without holding it down over a basin. Mental and bodily excitement must be avoided.

Sunstroke.

Where there has been exposure to great heat, and especially if there has been fatigue in addition, sunstroke is common. It may suddenly kill the patient, or there may be premonitory symptoms and time for remedies. Faintness, dizziness, nausea, blood-shot eyes, great heat, and absence of perspiration are among the symptoms. On their occurrence pour cold water at once over the head; apply ice or ice-water, in which is a little alcohol, all over the crown of the head and temples; put the patient in the coolest place to be found; shut out the light; fan him constantly; give an ounce of whiskey in two of ice-water; raise the head slightly. Send for the doctor.

Paralysis.

Paralysis may be caused by apoplexy, but is not necessarily dependent upon it. It is a symptom of other diseases rather than a disease itself.

It is a gradual or sudden loss of motion or sensation, both or either, in one or more parts of the body, and may follow various serious illnesses, injuries, poisonings, etc. Generally a first and partial attack is successfully treated. Friction, healthful living, digestible food, and electricity are the common ways of its domestic management. The doctor is responsible for the treatment of the cause of the disease. When it is long-continued and general, great care must be taken that bed-sores do not form.

Epilepsy.

Epilepsy is classed as a disease of the brain and nerves.

Symptoms.—The patient apparently well the moment

before suddenly falls to the ground, frothing at the mouth, and sometimes uttering a strange cry. The breathing is difficult; the body convulsed; the face contorted and livid, and there is a choking sound in the throat. These frightful symptoms pass off in awhile, and the patient lies stupid, recovering in a few hours at most. In a milder form, the patient loses consciousness for a moment; does not fall; has a fixed look of the eyes, and almost immediately revives and goes on with what he was about without knowing that anything has happened. Or, again, the patient may turn pale and slide down quietly without making any sound, is insensible for awhile, and, then reviving, is confused and languid for the rest of the day. However severe the attacks are in any of these cases, they pass off in from five minutes to an hour or two, but may return again at short intervals, and go on in this way for a number of hours, in which case the patient is in great danger.

Nursing.—When an attack comes on, put the patient in the middle of a bed, so that he may be less liable to roll off, or if he cannot be moved, let him lie on the floor; raise the head, unfasten all the clothing; put a handkerchief, made into a small tight roll, between the teeth to prevent the tongue from being bitten; put cloths dipped in cold water on the head and forehead, and hot-water bottles at the feet if they are cold. Keep the room darkened and quiet. After the first few attacks, for which you have called a physician, you will understand what to do in the repeated seizures.

Children or grown persons liable to the disease should live simply; avoid all heating exercise, or going up and down stairs, or doing anything that may create dizziness. They should spend as much time as possible in the open air, and as little as possible over books and business;

take a daily cold sponge-bath with brisk rubbing afterwards; eat easily-digested and nourishing food slowly, and avoid bodily and mental fatigue.

Hysteria.—Nervous young girls are frequently subject to attacks which somewhat resemble epilepsy, and cause needless alarm unless they are understood. The attacks differ in the following particulars: hysterical patients scream *repeatedly* when the fit comes on; will not allow their eyelids to be touched, or are sensitive to the touch; seldom have involuntary passages; are drowsy after the fit, and not stupid and dull. Put the hysterical person on the bed and loosen all the clothing; slap the chest and face smartly with the end of a towel dipped in cold water. Be decided but not harsh in your manner. The hysterical fit will pass off without injury to the patient.

Fainting fits.

Ordinary fainting, due to various causes, such as close, bad air, indigestion, pain, fright, etc., is caused by an interruption of the supply of blood to the brain; it is insufficient, and so, instead of raising the head, you must lower it. Take away the pillow; let the patient lie flat; give him plenty of air; if there is pain, give a tablespoon of whiskey or brandy in water, or a little wine and hot water. A whiff of hartshorn or smelling-salts may be useful, and cold water sprinkled on the face. Nothing more is generally necessary. If the fainting turns follow each other at short intervals, a doctor should be called.

Cerebral meningitis.

The disease is inflammation of the membranes covering the brain, and is always extremely serious. Children and elderly persons are more commonly attacked by it than others, but it may occur at any age. With children,

the noticeable symptoms are disturbed sleep; a cast or rolling of the eyes, dilated pupils; convulsions. With older persons, who can tell their symptoms, there is severe headache; intolerance of light; want of sleep; mental disquietude; sometimes unnaturally acute hearing; constipation; sometimes sudden loss of speech and delirium. The doctor should be sent for without delay, the patient being meantime kept in bed, in a darkened room, from which every sound and every person except the nurse is excluded.

Cold applications, ice caps, etc., will be ordered at once, and to do any good must be kept up steadily, uniformly, and over a definite surface, never for a moment being allowed to become warm.

There is no need whatever for soaking the bed while keeping up the cold applications to the head. See that the patient's body is not chilled by clothing made damp through careless use of cold water, and keep his feet warm.

Obstinate constipation will often be one of the symptoms, and purgatives will be ordered; the object being to produce very free movement of the bowels. If the full effect of the doses is not secured, report at once to the doctor. The most profound tranquillity of body and mind must be preserved; every noise must be suppressed, and no sort of moving about in the room allowed which can in any way be avoided. In convalescence, no visits are to be allowed; no general conversation in the room; no reading; no thinking, if possible. The room must still be shaded, and perfect rest enforced until all possibility of relapse is over. Relapse in such cases means death, and the attendants and family friends are the ones who are generally responsible for imprudence which may produce it.

If in the doctor's absence there should at any time be symptoms of sinking, cold sweat, fixed and glassy eyes, stupor, palsy, the nurse may give on her own responsibility an ounce of wine in hot water, or an ounce of strong beef-tea, if it is at hand; for a child, half the quantity. The feet should be warmed and the doctor sent for immediately.

The kind and quantity of food must be prescribed by the physician. Milk for either children or adults will probably be all that is required for some little time.

In *cerebro-spinal meningitis* the symptoms differ; there is excessive pain in the head and in the back, extending to the extremities. The body becomes rigid, but from time to time there are convulsive starts. Paralysis commences in the lower limbs, and gradually extends. There is nothing to do except to follow the doctor's directions carefully, and, should the case be long continued, to guard against the occurrence of bed-sores. Wet cups may possibly be ordered, and cold applications or cold pack. Perfect quiet is needed, and nourishing broths and milk. Surgical interference is sometimes called for in connection with the spine and ear. A surgeon should be consulted early.

Meningitis in children.

This is often closely connected with a scrofulous constitution, and occurs in children from a few days old to twelve or thirteen years of age. Whatever tends to aggravate the scrofulous condition tends to produce the disease, which is nearly always fatal.

Bad air, insufficient or innutritious food, exposure to cold, uncleanly habits, want of sufficient clothing, etc., all increase the unhealthy tendencies.

The existing cause of the attack may be congestion of

the brain, occurring in eruptive fevers, such as measles and scarlatina, or in long and painful teething; violent and heating exercise; blows and falls, even if the head is not struck; shocks to the nervous system from sharp pain, or a violent fit of anger or fright, etc.

The possibility of saving the child depends upon recognizing at once that something is wrong and sending promptly for the doctor.

Some of the symptoms.—Loss of appetite and spirits; constipation; unnatural appearance of the discharges from the bowels: they are pale and slimy, and offensive; gradual wasting of the body, not noticed in the face; drowsiness; squinting of one or both eyes, not noticed before; vomiting; unsteady gait; enlarged and glassy look of the pupils. The sleep is disturbed by sudden cries; clinching of the fist; the thumb is turned to the palm of the hand; the eyelids are half closed in sleep; teeth are ground; the head is rolled back and forth on the pillow, and the child moans. The disease may come on gradually with some or all of these symptoms, or it may suddenly appear with sharp pain in the head and fever, or with convulsions and screams, and a vacant look when the spasms are over. It may also show itself in a similar way as a sequel of scarlet fever, or in whooping-cough or painful teething.

Nursing.—The child must be kept absolutely quiet in a darkened room; spoken to in the gentlest way; never rocked in cradle or chair; never carried about the room or moved backwards and forwards on the knees, and must be kept with its head high on the pillow.

Ice-bags are sometimes ordered or cold compresses of soft linen rags soaked in ice-water or laid on a block of ice. Apply a fresh one before the last has had time to get warm.

The child's food need be nothing but milk and gruels, and there must be only the gentlest lifting when necessary, and always on the pillow, the head being kept high at the time.

Several times in the course of the disease the symptoms may seem to pass away and the child to improve. The nurse must not relax her attention, however, for there is no safety for the child until, for instance, the pupils contract quickly under a strong light. About one child in four recovers from this disease, and the recoveries are among the children whose first symptoms of brain disorder are promptly attended to.

Chronic hydrocephalus.

The disease in this form is not an inflammation, but a dropsy, the watery fluid collecting within the skull, and the head being enlarged the child is top-heavy. There is no chance of not observing the sudden or gradual enlargement of the head, and a physician will of course be called in. The child should be kept in the open air, and may, with advantage, wear a woollen cap. The best milk and most nourishing food should be given it. In a majority of cases children do not recover from the disease. A surgical operation is sometimes successful.

Rheumatism

is characterized by inflammation of the white fibrous tissues about the joints and in the walls of the large arteries and valves of the heart.

The direct cause of a sharp attack is exposure to cold, and especially to damp cold; cases also occur where malarial poison is said to produce it,—that is, the unhealthy surroundings of the patient develop the disease which is in his system. The acute form consists in heat, redness,

swelling, and pain about one or more of the large joints, with a tendency to shift from joint to joint. Fever accompanies the attack, and profuse sour perspiration. There is fear of the slightest motion because of the pain it may produce. Sometimes the heart is seriously involved, and there is always danger of this. The younger the person attacked, the more likely it is that there will be this difficulty. Delirium is occasionally one of the symptoms, and any light-headedness should be at once reported to the doctor. Acute rheumatism may occur at any age, but is more common before than after forty. If parents or grandparents have been subject to gout or rheumatism, this should be told to the doctor.

Nursing.—Besides following all the doctor's orders, the nurse must take great care that there is complete rest of body and mind; the pain in the joints will generally prevent motion, and everything else which can in any way excite increased action of the heart must be avoided. The temperature of the room should be 65° – 70° , according to the feelings of the patient, and night and day the same. A loose flannel gown should be worn next the skin. Cut it down the front in its whole length and slit the outer seam of the sleeves straight through shoulder and collar; tie with tapes, or button; linen and cotton when wet by the profuse perspiration become cold, and are hurtful; keep two or three flannel gowns and light blankets in use, and see that they are dry and aired when they are changed. Use flannel sheets.

Support the weight of the bedclothes by a cradle. Move the patient, when it is necessary to change the sheets, etc., very slowly and gently.

Do not use a rubber-cloth over the mattress: many folds of a cotton-sheet are better; and this must be firmly tucked in on all sides, or its ridges become very uncom-

fortable, and the patient cannot be moved to straighten it. The patient cannot be lifted in many cases for any purpose, and the bedpan and urinal must be used. If, as is often the case, this is impossible, from nervous apprehension, inform the doctor; it may be necessary to use the catheter and syringe. The patient, if able to use the night-chair, must, when taken up, be covered with an extra blanket and step out of bed on to a woollen shawl or some warm thing.

The temperature night and morning, and the pulse at corresponding times, must be carefully noticed, and the condition of the urine reported.

While the fever is at its height give no animal food; milk and gruels will answer until the doctor allows soups, beef-tea, or beef-juice. Lemonade, oatmeal, or barley-water may be given freely. If warm fomentations are ordered over the joints, a thin flannel—white is best—should be wrung out in the hot solution, shaken a moment, and laid over the place and covered loosely with oil-silk or very thin rubber-cloth which comes for such purposes. Re-wet the flannel before it is dry.

When there is a predisposition to rheumatism or the disease has become chronic, the patient should, if possible, live in a dry climate; but wherever he lives, he must avoid sudden changes of temperature, stay in-doors on damp, cold days, wear flannel from throat to ankles summer and winter, using gauze flannel in warm weather, and keep the skin in a healthy condition by bathing and rubbing, so as to favor all secretions.

A daily bath of tepid water in which two or three handfuls of rock-salt have been dissolved will be found very useful, and must be followed by brisk rubbing with coarse towels or hair gloves. Further to promote a healthy condition of the skin there should be daily moderate exer-

cise, nourishing and easily-digested food, such as eggs, milk, good bread and butter, juicy meats,—roasted, broiled, or boiled, never fried,—well-cooked vegetables, and farinaceous articles. All pastry and sweets should be avoided. The food must be thoroughly chewed and eaten slowly, so that it may be properly mixed with the saliva. The bowels should be kept regular. A healthful way of living like this will go far towards keeping back the rheumatic attacks, and lessening the predisposition to them, with their attendant train of ills involving the kidneys and heart. Never try the “infallible cures” offered by patent-medicine venders; they are invariably either useless or dangerous; the pain may disappear from one part, and the disease be driven to some vital organ.

Tuberculosis.

A disease due to the presence of the bacillus tuberculosis, which finds its home in the lymph glands, bones, and joints of the young, and in the lungs at all ages.

In the first case the child comes under a surgeon's care. A long and wasting illness is common, before a serious surgical operation sometimes alleviates the trouble. The surgeon and nurses may suffer from germ infection through lack of proper care in handling surgical appliances, or dressings, or from secretions from the bowels, or bladder, or nose; or from the sputa. The same precautions should be taken which are enjoined in the case of all germ diseases. The child needs the most nourishing food, and to be kept out of doors in fine weather, and to have free ventilation when in the house.

Tuberculosis of the lungs.—This is the most common form in which the disease shows itself and the one which the nurse will most frequently be called to care for.

The only known remedies at present are: *Fresh air,*

food, and rest. All these are commonly attainable, and the nurse can in general secure them for her patient.

Fresh air.—When called to a family ignorant of the needs in the case, and having the old-fashioned notion that “air will increase the cold,” the nurse must gently but promptly disabuse their minds of this idea. She must have the bed so placed that the window can be thrown wide open without bringing a draught on the patient. She can begin by airing another room with open windows and leaving the connecting door open; she can select the sunshine hours for letting in air directly to the patient’s room; she can gradually accustom him to sleeping day and night with all the windows open where cross draughts can be avoided. She can by degrees draw the bed on to a covered piazza and leave the patient all day there with extra wraps. By and by the nights in good weather should be spent there, a curtain or screen keeping off the wind, a cap covering the head and ears, and a warm wrap the whole body under the blankets. It will be found that the patient relishes his meals in the open air as he could not in a stuffy room.

Food.—Meantime, large quantities of easily-digested and nourishing food must be taken whether it is relished or not. Eggs are the staple articles for concentrated feeding. They may be taken to the number of a dozen or more daily; raw, or boiled, or in milk, or well shaken up in water with a dash of lemon juice, or baked in custard, or beaten into coffee, or used in any way which may prevent satiety. Milk may be freely taken and all other simple nourishing food as the patient pleases, always avoiding fried articles and rich dishes, choosing juicy meats and fresh vegetables and wasting no time over jellies and sweets. Fresh fruit is always permitted when it does not disturb the bowels. The three regular

meals should be taken, supplemented with the prescribed number of eggs *as so much more*.

The sweet syrups given to disguise drugs often upset the stomach and destroy the appetite, while a bitter taste has a contrary effect. If there is diarrhoea or gastric disturbance the doctor will prescribe, but the presence of fever does not call for a fast. If food is absolutely repugnant to the patient while the fever is on, large rations of milk, distributed through the twenty-four hours in small doses, may answer, with eggs; or koumyss may take the place of milk until food is tolerated. In certain cases forced feeding has to be resorted to, the stomach being first washed out with cold water and the food given through the tube. The French prescription for this meal is a litre of milk, an egg, and one hundred grammes of powdered meat.

Rest.—So long as there is fever,—that is, a temperature above normal,—no exercise is to be taken. The patient remains in bed or in a long chair in the open air, and all excitement is avoided. Gradually as he improves drives and walks may be taken, but *never* to the point of fatigue.

Other nursing.—For the rest the nurse does all that she can to keep the bed and the patient perfectly clean. A daily sponge-bath in bed, with alcohol rubbing, should be given, and a gauze flannel night-gown should be worn. The heavy sweats which are common make linen or cotton heavy and uncomfortable and give a chilly feeling. The feet should be kept warm, hot bottles being used at night if sleeping out of doors. The mouth should be cleansed with a disinfectant before and after eating, and the hands washed.

Hygiene of the room.—A room that has been occupied by a consumptive is poisoned; much can be done, how-

ever, to keep this danger in check. The disease is conveyed by all the discharges from the body, but especially by the sputa.

Sputa-cups must have in them always a little carbolic acid solution in the strength of an ounce of acid to nine of water, or when bichloride of mercury can be used, in the strength of 1 : 1000, and the patient must expectorate into it. For care of cups, see Chapter I.

No open spittoon on the floor is to be tolerated.

It is *dry sputum* which, floating in the air or lodging on the clothing, or bedding, or furniture, is a source of infection to other persons. For this reason never use pocket-handkerchiefs and allow them to become dry; it is safer to have squares of old linen and burn them before they are dry. Discharges from the nose may contain the germs of the disease.

The exhaled breath of the consumptive is likely to become infected by coughing and sneezing. A cloth should always be held in front of the mouth at such times, and the head turned away from any person present; drops of sputum might be coughed out. If the patient is so sensitive that he is unwilling to use a substitute for his handkerchiefs, he must have a large supply of them and they must be thrown still moist into 1 to 20 carbolic acid solution for three hours, and afterwards boiled in water for two hours over a gas or kerosene stove by themselves.

The room and all that it contains must have a sunning and daily airing whenever weather permits. Cold is no injury to a patient if he is well covered. Damp, windy days are the only ones in which this thorough airing is prohibited if the patient is in the room.

All utensils, all cups, spoons, plates, tumblers, etc., used by the patient should be *kept* for his use and boiled by the nurse after using.

All clothing, which, if the expectoration is profuse, and the cough troublesome, will have become infected from drops of the sputum, must be disinfected and boiled by itself, not with the other family clothing.

Cleaning the room.—Never sweep it in the ordinary way. Cover a broom with a wet cloth and wipe off the carpet or rugs and floor. The old-fashioned way of using wet tea leaves may do to catch the dust of the floor, if there are enough of them to pretty well cover the surface. They will hold the dust and should then be *burned*, not thrown out with the ashes to dry. The furniture should always be wiped with a damp cloth. Never use a feather broom, or a duster which may be taken to another room: *have special cloths for the sick person's quarters*.

General disinfecting of the room and contents must be done before any other person occupies it, as in the case of any other communicable disease. For disinfecting, etc., see Chapter IX.

For family use.—Where there is what seems a case developing, the following general directions are useful and can be carried out without a nurse.

Advice for tuberculous patients, Bellevue Hospital, New York.

Be hopeful and cheerful; in most cases consumption is curable.

Do as you are told carefully, and remember that it will take a long time to get well.

You may improve steadily for months, and lose it all by carelessness.

Your expectoration, or spit, contains germs and is dangerous to yourself, your family, and your neighbors. It must always be collected in paper or rags and burned while it is damp.

Never swallow your expectoration.

Do not kiss anyone upon the mouth.

Always wash your hands, and your mouth (rinsing it), before eating.

The treatment of your disease consists principally in (1) *fresh air*, (2) *rest*, (3) *food*.

Medicine will help, but it is not so important. Therefore the cure is principally in your own hands.

Stay in the open air as much as you can, twelve hours or more daily.

Do not be afraid of cold weather. Remain indoors only on very windy or very damp days. Always sleep with your window open.

Never exercise when you are tired; never tire yourself in any way.

Sleep alone. Eat only nourishing food. No pastry or fried food. Plenty of raw eggs and milk. Take a sponge bath daily. Wear a flannel nightgown.

CHAPTER V.

APPLIANCES—APPLICATIONS—BATHS—RUBBING.

APPLIANCES.

Medicine measures.

TEASPOONS and tablespoons are of such varying sizes that it is quite unsafe to trust to them in measuring doses. Use always a graduated glass or spoon, to be had at any druggist's. It is not possible to be too exact in this matter; to judge of the right quantity by the eye is criminal.

Atomizer.

In cases where it is necessary to throw a spray into mouth, throat, etc., a hand atomizer, such as is sometimes used in cologne bottles, will answer. Insert the point in a small bottle containing the fluid prescribed, either hot or cold.

Bed-rest.

When the regularly made piece of furniture is not at hand, turn up a high flat-backed chair in such a way that the four feet are in the air, and that it rests on the edge of the seat and top of the back. Slip the back down in the bed, well covered with pillows filled in to the small of the patient's back, and supporting his head and shoulders. When there is a permanently feeble patient a regularly made rest is necessary, which can be lowered or raised, and it should have arms or braces to keep the patient from slipping off at either side.

Bedpans.

In adjusting the pan introduce it at the side of the bed, covering the point with a soft towel to absorb moisture. Warm the edges before use by dipping the pan for a moment in hot water; dry it carefully. To overcome the physical difficulty of using it, which is often felt, place the patient, if the case allows it, as much in a sitting position as possible, the back and shoulders firmly supported; keep the knees bent, and give the feet something to push against.

Urinals.

Urinals are to be held in a soft towel when used and the parts thoroughly dried and cleansed after use. The vessel is to be cleaned with washing soda in hot water. Both of the utensils are to be disinfected as directed, Chapter IX.

Night-chair.

When the night-chair has arms, it is better to take out the arm next the side of the bed for the sake of ease in moving the patient to the chair.

Cradle.

In many troubles the weight of the bedclothes is more than the patient should endure, and a cradle is necessary. If there is no regularly made fixture at hand, cut a barrel hoop into two half circles, cross the two pieces at right angles with each other, and tie them firmly together. Put these over the patient's body to support the bed-clothing.

Cushions and pads.

Various-sized little cushions and pads, which can be changed about from spot to spot as any part needs sup-

port, are sometimes indispensable. One or more should be of hair, which is cooler and firmer than feathers. A "slumber roll" for the back of the neck is very useful also. To prevent slipping down in bed and to give comfortable support after abdominal operations and after childbirth, have a "slumber roll" three or four times the usual size; attach to it firmly at either end a strip of roller bandage long enough to fasten to the head of the bed, or to a slat near the top in an old-fashioned bedstead. Put the roll under the knees. Pillow slips should be made for it, open at each end, or it can be wrapped in a towel fastened with safety pins.

Thermometers.

Any room which is constantly occupied, or which is used as a nursery, or for sick persons, should be furnished with a thermometer. The temperature during the day should never rise above 68° – 70° , or at night above 60° – 65° , unless there are physician's orders to the contrary. Hang the thermometer as near the centre of the room as may be, and not against a chimney in use.

Clinical thermometer.

There should be a clinical thermometer in every family, especially where there are young children. It is applied under the arm in the arm-pit, and sometimes in the groin, the vagina, the rectum, and under the tongue.

The usual place is the arm-pit.

In applying the thermometer, shake the detached piece of mercury well down towards the rest of the column, holding the thermometer bulb downwards in the right hand and striking the wrist lightly on the table edge. Apply it under the patient's arm, having wiped away any perspiration; draw the arm forward a little towards the

chest and across it, and support the elbow. Keep the bulb well in place, leaving it for ten minutes. Remove it, and make a note of the degree of heat (the top part of the index, or detached piece of mercury, indicates it). These things are very easily broken and need care in handling. When applying the thermometer *under the tongue* the lips are to be closed. This method is dangerous for children or irresponsible patients, and for very feeble persons it is too fatiguing. In these cases it is better to take temperatures per rectum.

For babies the temperature is taken *by the rectum*. The thermometer will register $\frac{1}{2}$ – 1° higher than when taken elsewhere. Oil the tube and insert it about two inches—it must come in contact with the mucous membrane, and the rectum must be free from fecal matter. In whatever way the thermometer is used, it is to be thoroughly cleansed and disinfected after each using. When possible let the patient *see* this instrument washed before it is applied. To determine local surface temperature, apply the thermometer to the spot, and compare with the heat of a corresponding healthy part.

The nurse must from time to time have her thermometer tested by some standard instrument; generally this can be done at some responsible pharmacy. The bulb gradually contracts slightly, and a higher temperature is registered than should be.

Catheter and catheterization.

Do not attempt to catheterize a patient under cover; see what you are about. Cystitis or inflammation of the bladder is generally to be traced to careless use of the catheter, and lack of cleanliness on the nurse's part.

Take to the bed-side gauze pads, disinfecting solution, and your freshly boiled catheter, in sterile water; also

a vessel for the urine and one for soiled dressings. Separate the knees, flex them, and cover each with a large towel. When everything is ready wash and scrub your hands and disinfect them with bichloride solution. Above the vagina is a slight prominence and above this a depression, which is the urethral opening. Be very careful of any wound, or stitches.

Wash the parts thoroughly and cleanse them with the bichloride solution 1:3000. Oil the catheter with your finger, do not dip it in oil; the opening may be obstructed and the oil may interfere with the proper testing of the urine. Hold open the lips of the vulva and introduce the catheter *very gently and entirely without force*. Should there seem to be an obstruction withdraw it and try again. If there is further difficulty stop and notify the physician. Should the catheter slip into the vagina it is to be disinfected again before using. When the cavity is reached the urine will pass out. If the bladder is distended, draw a little only, and then repeat the operation slowly. Withdraw the catheter gently, keeping the finger over the end to protect the bed and any perineal stitches. Wash the parts, using a sterile swab, and dry carefully.

The catheter is to be cleaned by letting warm water run through it from a faucet, from both directions,—at first from the eye downwards,—and it should be put in the bichloride solution and then rinsed. Glass catheters should be boiled with a teaspoonful of washing soda in the water before disinfecting. Catheters are boiled just before using.

Washing the bladder.—Should this be ordered, pass a flexible tube over the catheter and introduce it in the same careful way; a small stream of warm water, or whatever is ordered, as a wash, is then poured very slowly through the tube from a small pitcher into a glass funnel, pre-

viously boiled. A rubber sheet must protect the bed and be arranged as a trough to carry off the water into a pan at the bedside, or the operation can be done over a bedpan. No nurse must attempt this washing unless she has been carefully instructed how to do it gently.

Vaginal douches.

The physician will order the fluid to be used. The douche is for cleansing and reducing any inflammation. For cleansing from one to three pints of sterile water at a temperature of 85°–95° are generally used. If given before a surgical operation, to prepare the field, and accompanied by an enema, give the enema first. The douche-bag and nozzle must be sterilized and the parts cleansed and made aseptic in the usual way with sterile swabs, sterile water, and 1 : 3000 bichloride solution. The nurse's hands must also be sterilized if sterile gloves are not used.

The patient's knees are flexed and the point is introduced about two and a half inches downwards and backwards, avoiding the perineum. *If a continuous stream* is desired it is sometimes kept up for an hour, and the temperature of the fluid must be kept at the degree ordered by additions; from two to four quarts are generally needed. In giving it, a small bivalve speculum may be used, introduced half way up the cavity and opened when everything is adjusted. The nozzle can be held in place in the speculum by absorbent cotton.

When bichloride of mercury or carbolic acid is used in giving the douche, follow them with a douche of sterile water. The greatest care must be taken to mix the disinfectant thoroughly with water, and to give it in the exact proportions ordered. The nurse must note all discharges and carefully report their character. The douche

is given over a sterile bedpan and the bed is protected in the usual way. The patient is asked to bear down to expel any remaining liquid, and the parts are carefully dried.

Uterine douches are not to be given by the nurse except as an assistant to the attending physician. The nurse must boil all the instruments before use, and have plenty of sterile water on hand.

Lavage, or washing out the stomach.

Protect the bed as usual; have ready a rubber tube and glass funnel, a rubber sheet to cover the patient, and a basin.

The patient is propped up in bed with the head held forward a little. The tube is then oiled and passed well back into the throat, and the patient is told to swallow; a very little pressure is needed from above, as the action of the esophagus carries the tube along. When it has reached the stomach a pint of warm water is poured into the glass funnel, which is then inverted (the tube bent), and the water runs out into the basin. The washing is then repeated until the water runs clear. A quart is generally used at one treatment. Withdraw the tube quickly and gently.

Irrigating the eyes.

This is done with a medicine dropper, which must be *perfectly* clean. Do not trust to its being new, clean it, both the rubber and the glass point, and run sterile water through it several times. If a child is the patient, fasten a small sheet tightly round the body over the arms to prevent injury from resistance. Place the head in such a position that on introducing the fluid at the *inner* corner of the eye it shall pass across the eye and escape at the

other corner. Catch the drop on absorbent cotton, it must not run over the cheek. Draw down the lower lid before dropping any fluid. Ointment is applied in the centre of the lower lid while the child looks up.

Applications to the eyes.

If these are to be either cold or hot, their value depends upon the unremitting attention of the nurse to keep them so. Small squares of cotton are used and are laid on the eye with the forceps, which must be sterilized for the purpose. Never use the same square a second time; have a quantity ready at hand; change them every minute. If the application is simply cold, have a block of ice in a sterile basin and lay the pledgets of cotton over the surface and transfer them to the eyes with the forceps, throwing the one removed into a paper bag to be burned.

Hypodermic needle.

This is used for giving medicines and sometimes stimulants and nourishment. It is introduced into the fleshy part of the skin on the outer side of the arm, thighs, hips, and on the abdomen; all nerves, bloodvessels, and joints are to be avoided. After washing with alcohol, a fold of the skin is pinched up and the needle inserted about half an inch in a slanting direction.

Before using the instrument boil the needle, dry and wrap with sterile gauze. A tablespoon over a gas burner is a ready boiler. The leather washers are to be removed and the barrel, piston, and point boiled and dried; insert the needle and wrap all in sterilized gauze till ready for use. Dissolve the tablet, if one is used for medicament, *thoroughly* in distilled water slightly warmed, and take up into the barrel the amount prescribed. Hold the point

up and expel all air by gently pressing the piston till a small drop appears at the point; then insert the needle quickly and inject the fluid *slowly* and *gently*; remove the needle and press the thumb lightly over the spot to prevent the escape of the fluid, and very gently rub upwards to distribute it. *To clean the instrument* wash it in sterile water and draw through it absolute alcohol and expel. Boil the needle and dry it. Put the fine wire in place again. Keep the barrel in 1 to 40 solution of carbolic acid ready for ward use.

Hypodermic needles may be connected with long rubber tubes attached to irrigating bottles holding the solution prescribed. These bottles are placed above the patient's bed and the fluid is infused for nourishment, to arrest hemorrhage, collapse, etc. The nurse's duty will be to have all the apparatus and the surface about the punctures surgically clean, and to control the flow of the fluid by pressing the tube as directed. Everything else is under the surgeon's care.

Abscesses.

Abscesses which sometimes follow the careless use of the needle are due to failure in surgical cleanliness on the part of the nurse, or with her instruments, or to impurities of the solution used, and sometimes from not giving the injection sufficiently deep. If pain is felt at the point where the needle has been introduced, wash it with alcohol and apply an ice bag.

Danger.

The hypodermic syringe has become a common instrument of physical and moral destruction. Nurses are cautioned never under any circumstances to make use of it

for their patients or themselves without explicit directions from a reliable physician. The immediate relief from pain, the momentary strength to meet an emergency, is certain to be followed by a reaction, and then the temptation comes to try it again. Nurses are specially liable in their fatiguing profession to meet this temptation. Not a few have yielded to it and made shipwreck. The caution is again earnestly given against the first use of narcotics or stimulants taken hypodermically or in any other way.

Enemata syringe.

Both before and after using, disinfect the point; see that warm, clean water is passed through the syringe freely, wipe perfectly dry, and keep the metal bright. A bulb syringe is best. When it is to be used, have whatever fluid is ordered in a basin by the bed; oil the point, fill the bulb and tube to the nozzle, and to expel all air; run off the fluid several times and then fill for use to the nozzle. The patient lies on the left side with the knees drawn up. Pass the hand under the bedclothes and apply, first in a forward direction and then backward a little, very gently; squeeze the bulb very slowly, and stop the moment that the patient is unable to bear any more. If the nozzle meets an obstruction there may be fæces which should be first removed. The fluid is to be introduced gently and slowly and a folded towel pressed against the anus to assist the patient in retaining it for ten or fifteen minutes. Hang up the tube to allow it to drain after thorough cleaning, and dry it on the outside. Hard rubber syringes dry and shrink; remedy this by soaking in hot water, and put the parts together again before they become too dry.

In giving an enema from a bag, use the same precautions as to disinfection and cleansing and run off some of

the fluid first to expel the air, and in either case stop administering the enema before the fluid is so low that air might be introduced.

To remove faecal matter from the rectum, cover the finger with a tight-fitting rubber finger, which comes for the purpose, and which should be securely fastened at the wrist; disinfect and oil the finger before introducing it.

Enemata.

Enemata are given either to relieve or control the bowels, or for the purpose of nourishing a patient not able to take food by the mouth, or for stimulation or thirst.

For the first purpose, from one to four pints of liquid may be used for an adult; one pint for a child, and not more than two ounces for a baby.

The enema should be given at body heat, about 98°—warm soapsuds, with castor oil or sweet oil, in such proportions as the doctor may order; or, where *diarrhæa* is to be controlled, less fluid, probably thin starch mixed with cold water, and some astringent or opiate, as thirty drops of laudanum. In all cases the doctor's directions must be asked and followed.

For nourishment not more than three ounces should be given at one time; more than this may simply irritate and not be retained.

Nutritive enema.

When a patient is receiving such an enema frequently, the bowels must be emptied with a soap and water enema once a day, given two hours before a nutritive one. If feeding in this manner is continued for any length of time the lining of the bowels will become irritated unless irrigated after each occasion with simple warm water.

Nutritive enemata are given at body heat, and must be fresh and well mixed. Cleanse the syringe and tube carefully after each using, or the enema will be sour. After a nutritive enema the patient should be perfectly quiet for half an hour at least, and no effort must be made to discharge the enema.

Highly concentrated liquid food is used for nutritive enemata. Beef extract, eggs slightly beaten, milk, and milk and whiskey or brandy, milk and eggs. Pepsin may be added. The doctor should be asked to prescribe the fluid given in this way. If the patient cannot retain three ounces, try two or even one.

To relieve thirst a pint of warm sterile water or saline solution is given high in the rectum.

To stimulate, brandy or other spirits can be added as ordered with warmer water, and black coffee can be used with good effect.

High enemata may be given by passing a No. 12 male elastic catheter over the point of the bulb syringe, softening it in warm water first. The nurse must be carefully directed as to its introduction. The fluid is to be thrown high up in the bowel very slowly.

Various enemata.

Simple soap suds made with castile soap and hot water. Let the temperature be 100° when taking it to the bedside to allow for cooling. A large enema of this sort is sometimes effectual when a small one fails in moving the bowels.

For destroying worms.

Certain drugs are used and must be prescribed in the proportions desired.

Not more than half a pint of fluid will be needed for an adult and less for a child.

Salt enema.

Give one and one-half ounces salt in one pint of gruel warmed.

Oil enema.

Either sweet or castor oil given clear, four to six ounces for an adult, warmed sufficiently to make it flow freely. Three ounces of glycerine may be used instead of oil. If not effective, follow by a simple soap and water enema.

Opium enema.

Make a thin boiled starch and let it cool; do not use more than a teaspoonful of raw starch for one enema, and thin the mixture with cool water, stirring it all the time. If it is too thick when cold, it will not pass through the tube. To two ounces thin starch-water add thirty drops of laudanum, more or less, as ordered. Children will require less. Ask for directions.

Oil and turpentine enema.

One-half ounce of turpentine.

One and one-half ounces of castor oil.

Three-quarters pint of gruel.

Poultices.

A poultice should be made larger than is absolutely necessary. It is intended to allay pain and inflammation, and as the pain probably extends beyond the inflamed part, a large poultice should be made to cover the surrounding surface. Spread it on a stout piece of cotton. Let it be from half an inch to an inch thick. Do not pat it down into a hard pudding. Make the edges as thick as the middle, or else they dry rapidly and are painful. Cover the surface of the poultice with a very

thin gauze or muslin, or a bit of mosquito-bar or lace, so that it shall not stick to the surface and can all be removed at one time. Have the cloth on which it is spread large enough to double up all round the four sides over the edges of the poultice, that it may not ooze out. In applying to the chest, do not cover the nipples if it can be avoided. Have everything ready and the patient's clothing unfastened before you bring the poultice to the bed. Apply it immediately as warm as it can be borne. Cover it with oil-silk or rubber-sheeting, and then a flannel. Keep it firmly fastened to the place it is intended to cover, and renew it before it is cold. Its purpose is defeated if it becomes a stiff cold paste, or if it is allowed to slip about in an unsteady way. Linseed is better than anything else for an ordinary poultice.

When oil is needed to spread over the surface of the poultice use vaseline: it does not become rancid. Never use milk in making poultices; it quickly becomes sour, and is of no value in itself.

A good and very simple poultice is a piece of soft thick sheet-lint doubled, squeezed out in hot water, and laid over the part, covered with a larger piece of rubber-sheeting, which comes for such purposes, and is very thin.

Bread poultice.

Pour half a pint of boiling water over a sufficient quantity of bread-crumbs; stir until a soft mass is obtained.

Half an ounce of laudanum can be poured over if the pain to be relieved is great.

Linseed poultice.

Warm a basin, put in some boiling water, and little by little add linseed-meal, stirring thoroughly all the time. The linseed swells and absorbs a great deal of water.

When the paste is a gelatinous mass, it is ready. A little oil added while stirring will keep it soft longer.

Slippery-elm poultice.

This is made like the linseed, using ground slippery-elm.

Charcoal poultice.

Soak two ounces of bread-crumbs in half a pint of boiling water; add slowly a wineglass of linseed, and when well mixed stir in two tablespoons of powdered charcoal; mix thoroughly, and over the surface of the poultice, lastly, sprinkle more charcoal.

Renew the poultice often.

Bread-and-suet poultice.

An excellent healing poultice when the surface of the skin is broken is made by mixing equal parts of bread-crumbs and mutton-suet in hot water over the fire until they are thoroughly blended.

Yeast poultice.

Mix a pound of linseed or oatmeal in half a pint of yeast. Stir gently over the fire; when warmed spread on the cloth. Half a yeast cake can be used in warm water. Add one-half pound flour; set to rise.

Hop poultice.

Fill a thin bag with hops; steep awhile in hot water; wring out, and apply, covering it with flannel.

Bran poultice.

Wheat or rye bran bought at feed-stores makes a light and excellent poultice. Mix as linseed. Linseed, when needed in quantity, should be bought at feed stores.

A jacket poultice.

Cut a loose-fitting jacket of cotton-cloth without seams or sleeves, and a second one of the same shape for a lining ; sew them together at the edges, leaving a small opening through which bran can be poured in ; quilt the bran here and there with large stitches to help keep it in place ; soak it in boiling water ; press it on a tray to squeeze out the excess of water ; and then put it on the patient, holding it close to the body with a wide bandage. It may be only necessary to fill the front and sides with the bran. A soft poultice, half an inch thick, is made in this way, and can be re-wet again and again. It is sometimes used in pleurisy, etc. *A pneumonia jacket* is cut in the same way, cotton batting being quilted in, in place of the bran. Let the edges of the two halves overlap, and tie them together with tapes under the arms and at the shoulders.

Counter-irritants.

In applying counter-irritants do not cover a larger surface than is just necessary, and do not make them thick like poultices.

Mustard plaster.

Mix ground mustard with boiling water to a thin paste ; spread on a stout paper or cloth ; cover with a gauze or very thin cloth, and apply, removing it when the surface is well reddened. If slower action is wanted, and a mild, long-continued burning, make a thick paste of Indian-meal or flour, and stir in a tablespoon or more of ground mustard, one spoon of mustard to three of flour, apply, and keep in place with a bandage. Use this for children fifteen or twenty minutes. If the burning is unbearable, examine. Some skin is very tender. In removing the plaster use vaseline and cover lightly.

Cayenne-pepper plaster.

Make a thin paste of flour and water, and stir in a deserts-
spoonful of cayenne; spread on stout paper, cover with a thin cloth, and apply.

Blisters.

Never apply a blister when the skin is broken or scratched. Shave the hair on the part to be blistered. Wash the place and dry with a little friction; lay the blister-plaster on, holding it in place with strips of adhesive plaster or a bandage. The time required to raise the blister varies with different persons,—examine it in two hours; it may take from five to six. The plaster is readily removed when the blister is raised. Now snip the puffed skin in several places with sharp-pointed scissors, and the fluid will run out; wipe it gently, and spread a soft lint with whatever ointment has been ordered, and keep it in place over the spot by strips of plaster, not drawn tight over the lint so as to press hard on the tender place, but attached firmly to the skin outside the lint by either end. Allowing this dressing to slip about so that the clothing adheres to the raw spot causes very unnecessary suffering. The lint and ointment must be renewed twice daily.

Blisters now are very seldom used.

For a child.

Never leave the blister on more than from two to three hours. Remove it then when the skin is well reddened, and apply a bread-and-water poultice to raise the blister. The danger with so tender a skin is that the *true* skin underneath may be destroyed if the blister remains on long enough to puff the surface. Cantharidæ collodion is used in place of blister cerate.

Croton oil.

Rub the surface to which the oil is to be applied with a bit of flannel, and then immediately take up one, two, or three drops of the oil on a rag, and cover the reddened surface; apply this again at intervals of from four to six hours, until small pimples are seen all over the spot rubbed. No oil is to be used after this. Do not try to soothe the burning: irritation is wanted; tie a soft handkerchief over the part.

Lotions to relieve pain.

If a lotion is to relieve pain, a piece of sheet lint, or several folds of old linen, such as an old towel or tablecloth, should be dipped in the lotion and laid on the affected part, covered with oil-silk and held in place by a bandage. Re-wet the cloth by squeezing a little of the lotion over it, without removing it.

Evaporating lotion for cooling purposes.

Vinegar, camphor, alcohol, etc., mixed with twice the quantity of ice-water, should be applied on a single thickness of linen. They cool by evaporation, and must be renewed as the cloth dries; hold in place with a loose bandage, and do not cover with oil-silk or anything else.

Liniments.

Rub the surface to which the liniment is to be applied briskly for a few moments, and then pour a few drops of the liniment into the palm of the hand, and rub with a firm, even pressure until all the moisture is absorbed.

Cupping.

There are two kinds of cups—wet and dry. To apply them, get ready four or five wineglasses or very small

tumblers (unless the regular apparatus can be had), some blotting-paper or cotton-wool, alcohol in a saucer, and a lighted candle. Soak small pieces of the paper or cotton in the alcohol, light one, toss it into the glass held in the left hand, and after a second reverse the glass quickly over the spot to be cupped, and so on with each glass. The skin under the glass will at once puff up; the glasses may be left on from five to thirty minutes, as ordered. To remove them, insert the thumb-nail under the edge of the glass, so letting in a little air. *This is dry cupping.*

If wet cupping is needed, puncture the puffed-up skin here and there with a sharp lancet, sterilized, and apply the glasses again as before; a little blood will now be drawn; remove the glasses as in the former case. The wound must be thoroughly washed with bichloride solution, 1 : 2000, and a gauze applied.

Leeches.

Wash the part to which leeches must be applied perfectly clean and dry it. Dry the leeches in the folds of a soft towel and apply them, holding them in place with a wineglass or top of pill-box. Should they delay taking hold, prick your finger and put a drop of blood on the spot, or one of sugar and water, or milk. One leech takes about a teaspoonful of blood. If applied to the mouth, ear, or nostrils, they must be put in a test-tube or small bottle, and held to the spot in this way.

Plug the ear with cotton below the spot before applying the leech. It is considered safer to pass a thread through the tail of the leech when needed for these parts. If by accident a leech escapes down the throat, give salt and water freely. Never use the same leech twice.

Never pull the leech off; if he does not drop when blood enough has been taken, sprinkle a little salt over

him. Throw him into a basin of water when he drops and then into the fire, never into the water-closet. Should it be necessary to increase the flow of blood, a warm poultice applied over the bites for a few moments is effective. Never leave the poultice on for more than ten minutes without examining it. There may be too free bleeding. In the case of a young child it is doubly necessary to guard against this.

To stop bleeding.—Make a small compress of folded squares of linen one on top of the other, or roll up firmly some scraped lint and press it over the bites, holding it in place with the finger or strips of plaster or a bandage. The compress may be dipped in ice-water. Should the bleeding continue, a little powdered alum may be sprinkled on the bites, or the doctor should be sent for, or the bleeding point may be touched with the point of a steel knitting-needle heated to a dull red heat. Leech-bites should be washed with bichloride solution, 1:2000, and dressed with a compress of sterilized gauze. Leeches should not be employed directly over inflamed tissues, but to the surrounding area; they should not be allowed to take hold directly over a superficial artery, vein, or nerve, and should never be applied to a part where there is delicate skin or a large amount of loose cellular tissue, as the eyelid, since extensive discoloration is apt to result from subcutaneous hemorrhage.

Cold applications.

Cold, when applied, must operate steadily, uniformly, and over a definite space. If the bag of ice or the cold cloths slip about as the feverish patient turns and twists, it is useless, perhaps harmful; if it is allowed to become warm before being renewed, it had better not have been applied.

Ice-bags.

Put pounded ice with a little water into a thin bladder or india-rubber bag. The water remains cold until the last bit of ice is melted; renew before this. By these bags continuous cold is secured, and no danger from frost-bite need be apprehended. Ice can be easily pounded by wrapping it tight in one end of a thick cloth, and then slinging the cloth with force against a stone hearth, or using a hammer.

Do not fill the ice-bag full; it adapts itself better to the heated part when half filled.

Cold cloths.

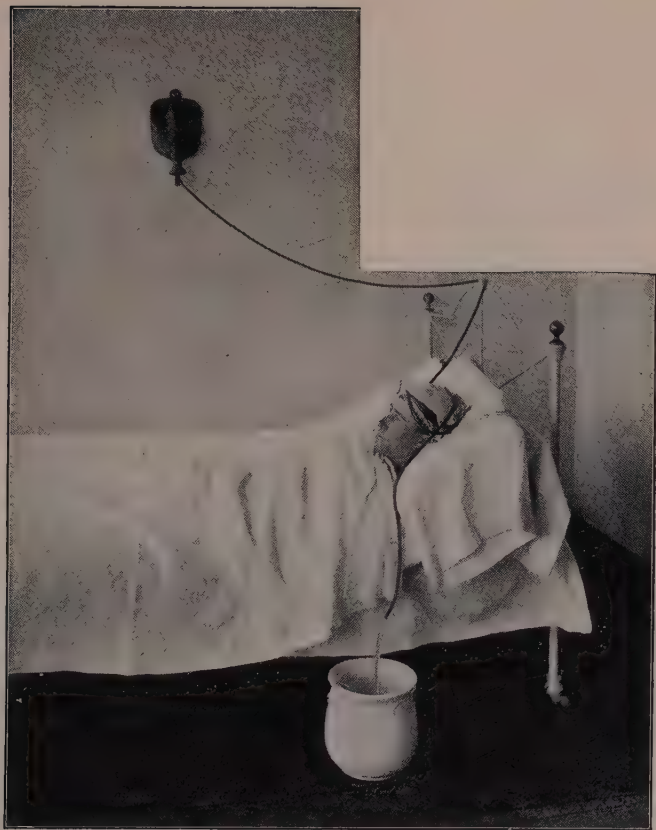
Apply single folds of linen or cotton dipped in cold water, and replace them by fresh cool ones before they become warm. Have a block of ice on which the linen can be laid.

Cold drip.

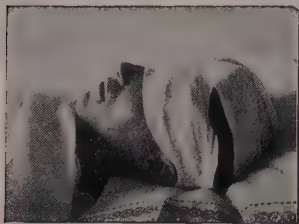
Stand a pitcher of water on some bureau or table higher than the patient's bed. Put one end of a long strip of lint or lamp-wick in the pitcher, and lay the other across a cold cloth, which is applied to the inflamed part. A continuous little stream of cold water is thus conveyed to the part, and the water which passes from it must be caught in a basin on the other side.

Cold drop.

A bag, with tube, filled with ice-water can be suspended above the bed, or where there is a curtain-ring in the ceiling, for instance; a bottle with a piece of lamp-wick half in, half out, may be made to depend just over the part to which cold is to be applied. A constant drop



Cold drop application to the head.



Ice-cold bandage for head and forehead. Resting on rubber pillow.



Ice coil applied to the stomach.

of cold water is thus secured. Care must be taken that the water is conveyed into a basin, and not allowed to soak the bed. This cold drop is more easily used with a wounded arm or leg, which can be placed in a trough made of india-rubber cloth, and sloping towards a basin or pail.

An excellent fixture for applying continuous cold consists of a rubber bag with a flexible tube at either end,—one being attached to a faucet or water-cooler, and the other hanging over a pail. The bag, through which a stream of cold water is passing, is applied where desired, having between it and the part a damp cloth.

Ice coil.

Long rubber tubing should be wound in the shape adapted to the part under treatment and bound together by interlacing tapes folded over and their two ends fastened together. One end of the tube, left long enough for the purpose, is then applied to the irrigating jar containing the cold or ice water, which is raised above the bed and a continuous stream is secured. The coil is laid over the part under treatment. The end of tubing through which the water escapes should be long enough to reach a jar by the bedside. Keep up the supply of iced water.

Hot applications.

The readiest way in many cases to apply heat is by hot-water bottles. Roll them in flannels and apply outside the blanket. Should the patient be suffering from shock, or insensible from any cause, and consequently not able to complain, keep watch against blistering the skin. Bags of sand or salt, bricks, flat-irons, tins, tin plates, etc., are all useful in emergencies to supply heat. Make them very hot; wrap and apply them in the same way.

Hot flannels.

These are often applied to the stomach to allay pain. Fold a flannel in a long towel and lay it across a basin; pour boiling water over it, and then, taking the towel by both ends, wring it as dry as possible. Shake the flannel up a moment to take in air, which will help in keeping the heat, and apply over the part, covered with an oil-silk. Change once in fifteen minutes if constant heat is required, having two sets of flannels. If over a woman's chest, cut holes for protection of the nipples.

Poppy fomentations.

Boil two poppy-heads in two pints of water until they are reduced to a pint. Strain, and wring out a flannel in the hot fluid, applying, and covering it with oil-silk. A handful of chamomile flowers may be used instead of poppy.

Turpentine stupe.

Wring out a flannel in hot water and sprinkle it with half an ounce of turpentine; apply, and cover with oil-silk. Laudanum may be sprinkled in the same way. Hold in place with a roller bandage.

Hot spirits.

The flannel being wrung out in boiling water, a vial of whiskey can be set in the water and made hot; sprinkle the flannel with this, and apply, covering with oil-silk, renewing as soon as dry.

BATHS.

Nothing is more important in preserving the health and promoting recovery from disease than daily bathing. All the vital organs are affected through the skin, and by keeping it in a healthy condition the circulation of the blood, the action of the kidneys and bowels, and all the digestive processes are promoted, many diseases warded off, and the assimilation of food aided.

The nurse should always ask the doctor not only what kind of bath to give, but also exactly at what temperature he wishes the bath given, as harm often results from ignorance in this matter.

Right temperature of different baths :

Cold	.	.	.	40°- 65°	Fahrenheit.
Cool	.	.	.	65°- 75°	"
Temperate	.	.	.	75°- 85°	"
Tepid	.	.	.	85°- 95°	"
Warm	.	.	.	95°-100°	"
Hot	.	.	.	100°-112°	"

The best way to give a plunge-bath.

If possible, a portable tub should be used at the bedside; if not, the bath should be prepared in the bath-room, the temperature of the water and of the room being tested by the thermometer, the room being sufficiently warm to prevent any chill on emerging from the bath. The patient's night-clothes having been removed before he leaves his bed, he should be rolled in a clean sheet, wrapped in a blanket, and pushed in a chair or carried to the bath. He should then be put into the water, still rolled in the sheet, for the length of time ordered by the doctor. Hot baths in eruptive fevers are given in the same way.

On removing him from the water, he should be quickly rolled in a dry, warm sheet, wrapped in a blanket, and carried back to bed, which must be warmed. In this way a weak patient can be made dry without extra fatigue. A little rubbing as he lies in bed completes the process. Rub with long, soft strokes, not niggling little pats here and there. The damp sheet and blanket are now removed, and the night-clothes put on. If a number of baths are ordered in a day, it is best to roll the patient in a sheet, and not fatigue him with putting his night-clothes on and off.

Cold douche for the head.

This is sometimes ordered in inflammation of the brain, and to subdue delirium in fevers. The hair should be cut close or shaved, if very thick. Spread a rubber sheet over the bed-clothing, raise the patient, and bend his head forward over an empty basin; protect the shoulders and neck by oil-silk between several folds of soft towels; then pour cold water from a pitcher over the crown of the head into the empty basin, the pitcher being slowly and gradually raised higher and higher, so that the water may fall with more force. Dry the head without rubbing.

Hot foot bath.

This is usually intended to relieve the head and to promote perspiration. It should be hot enough to make the skin decidedly red, and more hot water should be added from time to time. The water should reach nearly to the knees, and the patient and the tub should be covered with a blanket. If greater relief to the head is required mustard can be added, half a teacupful to a pail of water. The bath should last from fifteen to thirty minutes, and warm stockings or a small blanket should be used in bed



Vapor bath in bed.

after it to protect the limbs and knees. For a feeble person, put the foot-tub in the bed and so bathe the feet, protecting the bed; flex the knees and cover them with a blanket while the feet are in the water.

Sponge bath.

When given in bed, the things to care for are that the bed be protected with a rubber-cloth and draw sheet; that the patient's arms are slipped out of his sleeves, and that a dry night-shirt is always put on after the bath. Return the cloth to the basin frequently, and change the water three times at least during the bath, having fresh water and slop-jar by the bed for the purpose. Everything needed must be at hand before the bath begins. Dry with soft towels in quick, gentle strokes, enveloping the part in a towel as soon as it is washed, and so avoiding exposure. Cover the patient with a blanket and pass your hand under it while bathing him. Never use a sponge.

Vapor bath.

The simplest way of giving a vapor-bath is to undress the patient, put a flannel or woollen cloth about him, seat him in an arm-chair, stand by his side a pail of boiling water, into which, as it cools, you put bricks made very hot, and cover the patient, chair, and pail, with a large blanket fastened securely at the neck. The steam will soon produce the perspiration required. The greatest care will be necessary to see that the bed, bedclothes, towels, and night-shirt are made hot before the patient uses any of them after the bath.

Vapor bath in bed.

If the bath must be given in bed the sheets should be removed; they quickly become damp and cold; use blan-

kets; the patient's clothing is taken off; he is rolled completely in a blanket to prevent burning the flesh; the bedclothes are raised on a cradle, and a kettle of boiling water on a gas-stove or spirit-lamp is placed on a table close to the bed; a croup-kettle, which has a large nozzle, is useful for this purpose, a rubber pipe slipped over the spout and passed under the bedclothes lessens danger from fire; or a stove-pipe elbow can be put over the gas-stove or lamp. If the stove-pipe covers the entire lamp admit air by raising it a little from the floor. When the perspiration is very freely established the patient may be rubbed with warm towels and his warmed clothes put on. Dry, warm sheets and blankets must be used without exposing or disturbing the patient.

Hip bath.

This will be given either hot or cold, as ordered by the doctor. If ordered hot, the patient may remain in it not longer than fifteen minutes. Cover tub and patient with a blanket.

Cold plunge or pack.

These are in favor with some physicians in the treatment of fevers. When ordered, the doctor should always be at hand for the first bath at least, to see the after-effect. If, however, he has gone away, leaving orders that it be given, there are certain conditions under which it would be proper to postpone it until further instructions. For instance, if, since the order was given, a free perspiration has appeared; if the patient feels chilly although his bodily temperature is high; if, on being raised up, he should faint; if, in the case of a woman, the monthly period has come on. Any other unlooked-for symptom, which shows itself after the doctor has left, justifies the



Method of renewing cold pack.



Method of renewing hot pack.

nurse in asking the physician's advice before giving the cold plunge or pack.

If nothing prohibits *the plunge bath*, the patient is to be undressed, rolled in a sheet, and put in an empty tub, which is brought to the bedside. He can be lowered into it as he lies on the lower sheet, as in a hammock, by two persons, the bed being freshly made and covered with a rubber cloth to receive him again. Cold water is to be poured by the bucketful slowly all over the body for two or three minutes until he is evidently cool. He is then to be rolled in a dry sheet and put back into bed, without any exertion on his part, and covered with blankets; or he can be lifted in the sheet he was lowered in, and dried as he lies on the rubber, which is then removed. The nurse must ask in advance for directions in case of exhaustion following the bath.

Should the patient not be strong enough to stand the shock of cold water poured over him, lay him in a tub half filled with water at 90°, and gradually cool it with ice or very cold water to 80°-60°, as ordered.

The cold pack consists in taking off all the patient's clothing as he lies in bed and quickly rolling him in a sheet wrung out in cold water, snugly, so that the sheet touches every part of the body,—use one sheet up to the arm pits and another over and round the arms and close about the throat. The bed must be protected with a rubber-cloth with a blanket over it, and the patient must be covered with blankets. The object is to produce free perspiration and so lower the temperature. Leave the sheet on fifteen or twenty minutes in the absence of orders to the contrary, and then rub dry with soft towels; put on warm night-dress, and slip off the rubber cloth. See that the feet are warm all through the bath.

If the pack *is to be continued* and kept at a low (or

high) temperature, the blanket can be folded back and cool (or warm) water sprinkled over the sheet again, or poured from a small watering pot. The patient's temperature should be taken before the bath, and three-quarters of an hour after it. If these baths have been of service the temperature falls after awhile, the pulse becomes soft and compressible, and the skin moist.

In typhoid fever

if a tub bath is ordered give it in the same way, saving the strength and preventing all exertion on the patient's part. *Rubbing* while in the bath is sometimes ordered, of the chest, legs, and feet, *not the abdomen*. The nurse passes her hand under the sheet and gives the rubbing continuously. A cold compress is applied to the head, and the pulse is taken once during the bath, which lasts for ten to fifteen minutes.

When a patient is too feeble for a tub-bath, substitute cold sponging and rubbing if this is ordered; or the cold pack, or sponging off with alcohol, allowing no motion whatever on the part of the sick person. The extremities must be warm, and hot milk be given after the bath.

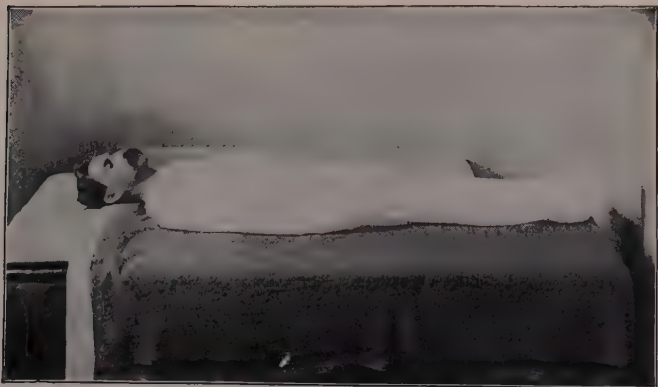
In private houses, as a rule, the tub-bath is impracticable for the reason that the tub is too short (except for a child), and the bending and disturbance of the heavy body is too great. The pack—cold or hot—or the sponge bath has to be substituted.

For hot packs.

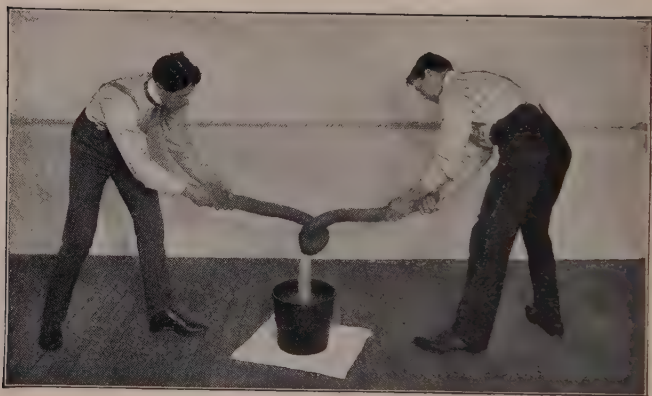
Sometimes ordered in rheumatic fevers. The sheets in which the patient is closely wrapped are wrung out in *hot* water, a dry blanket is rolled all about him, and a rubber blanket wrapped outside that blanket. The greatest care will be needed to prevent check of perspiration. Drying



Patient protected ; on rubber blanket ; hot-water bottle at feet.



Patient uncovered for continuous pack.



Preparing sheet for hot or cold pack.



Application of the sheet.

must be with hot towels, and a flannel nightgown and flannel sheets used.

A continuous or sluice bath

may be taken in bed by building up a wall of pillows all round the patient and covering it with a large rubber sheet. Raise the bed at the head; over the foot of the wall should hang a folded towel which shall syphon the water slowly into a jar. The patient lies on the rubber, rolled in a sheet, the head being comfortably supported with air cushions, and water is slowly directed to any part of the body from an irrigating jar standing about five feet above the floor and holding about twelve quarts. Long tubing can also be connected with a nearby faucet for this bath.

When the continuous bath can be taken in a tub it is easily managed. The water can flow in and out with no trouble, and the patient can be supported on canvas bands now sold by dealers, fastened with clamps to the sides of the tub, one band supporting the shoulders and head, one the buttocks, and one the feet, so that the patient does not touch the tub, but is suspended in the water covered with blankets. This is now generally recognized as of use in gynæcological cases. The outflow from the tub can be controlled by partially stopping the opening. *The sitz bath* may take the place of the tub for these cases in a private house, if the bath is needed for the pelvic region.

Put the sitz tub into the ordinary bath tub, and use a yard or two of tubing to keep up the supply of water. The patient should sit on a ring cushion, and the shoulders should be protected with a warm sack. A rubber sheet can be put across the knees, or a folded waterproof cloth or cloak. The feet should be raised above the outflow of water on air cushions, and be warmly wrapped.

Bran bath

Put bran enough into warm or cold water to make it milky. This bath is used for softening the skin when it is dry and flaky. It should not be used in stationary tubs, for in letting off the water the bran will be sucked down, and will choke the pipes.

Salt bath.

Put one pound of rock-salt to four gallons of water. Increase the salt in proportion to the quantity of water. Rub the body briskly after the bath. This bath is useful to invigorate feeble constitutions, and when given cold, as a daily sponge bath, lessens susceptibility to colds, rheumatism, etc. The salt will injure iron pipes.

Sulphur bath.

This is mixed in the proportion of 2 to 4 ounces of sulphuret of potassium for a plunge bath. It is used in skin diseases and in rheumatism.

Soda bath.

One pound of common baking soda is enough for this bath, which is used for the same purpose as the sulphur bath. The soda should be first dissolved in warm water, after which water of any temperature may be added in sufficient quantity for a plunge bath.

RUBBING.

When friction is needed to excite circulation of the blood, brisk rubbing up and down with the bare hand or hair glove, all over the surface of the body, will answer. The best time for this is before dressing in the morning, after the patient's bath.

Where there is stiffness or inaction of the muscles from any cause, the entire body should be treated by pinching and rubbing the muscles and tendons, done with the whole hand and not the fingers alone; each joint also should be worked up and down and backward and forward, evenly and without jerks, commencing at the toes and going upwards, a sort of kneading of the entire body, called *massage*. Cocoa oil or butter is frequently rubbed in at the time.

A nurse needs some knowledge of anatomy and physiology to give this treatment intelligently and must have special instruction in manipulation. If the part upon which these manipulations are to be practised contains a heavy growth of hair, this should be carefully removed by shaving, otherwise the manipulations are apt to give the patient pain, and abscesses may result from infection of the hair-follicles.

Where there is a restless nervousness or fatigue to be overcome the rubbing should be in one direction, in long, slow, firm strokes, beginning with the shoulders and arms, then the back, abdomen, thighs, legs, and feet, with an equable, monotonous movement, which soothes and induces sleep. Give it at night.

For all kinds of rubbing half an hour at a time is enough. The patient's arms being slipped out of the sleeves, the rubber should sit by the bedside and pass her hand under the bedclothes without exposing the patient in any way. The nurse must keep her hands in good condition for rubbing by wiping them perfectly dry when washed and using glycerine at night. Rubbing with a rough hand simply irritates the patient.

CHAPTER VI.

SURGICAL CONDITIONS AND SURGICAL NURSING.

SURGICAL CONDITIONS

Fractures.

A fracture is a break in the continuity of a bone. Fractures may be divided into two classes. *The first* includes *simple fracture* without external wound. This may be *incomplete* or "green-stick fracture" (which is a bending or giving way of some of the fibres, as when a green stick is bent), a condition seen in childhood; or it may be a *comminuted fracture*, when the break is into several fragments, or a *fissure*, or crack, most common in flat bones, as in the skull.

The *second class* is of *compound* fractures, or fractures complicated by an external wound.

The symptoms of all fractures are loss of function and pain; localized tenderness about the site of the fracture, irregularity in the contour of the bone, and grating of the pieces of bone, called *crepitus*.

The *treatment* consists in reducing the fragments to the normal condition and keeping them in place.

When an accident of this kind comes under the attention of a trained nurse she should attempt to keep the broken bone from further motion, by an improvised splint, such as the stiff covers of a book or stout cardboard, applied over a pad. This answers in simple fractures till the surgeon comes. Should there be a compound fracture a cloth wet with an antiseptic should be placed under the pad, over the lacerated surface.

Wounds.

A wound is the violent division of the natural continuity of tissues.

A *contused wound* is one in which there is more or less bruising of the tissues by blunt force, such as by kicks or blows.

In a *lacerated wound* the tissues are torn, as in accidents with machinery.

An *incised wound* is made by a sharp cutting instrument, such as a knife.

A *punctured wound* is deeper than it is wide and may be made by any sharp-pointed weapon.

An *infected wound* is one which has been invaded by disease-producing germs.

Wounds vary according to the extent of the injury to the parts involved: skin, muscles, blood-vessels, nerves, and other tissues.

There is always some hemorrhage, capillary, or from larger vessels. When *inflammation* supervenes upon the infection of a wound it is characterized by pain, heat, redness, and swelling, all of which conditions depend upon an increased influx of blood to the part.

Pain results from pressure upon the nerves, and swelling from inflammatory exudation. The inflammation may be followed by suppuration, pus being formed, the product of germ infection.

Pus is usually creamy in color and consistency and odorless, but these characteristics vary. It may infiltrate the tissues not protected by a lining membrane, or it may be walled off from the surrounding structures, in which case it is known as an abscess.

Sloughing is death of part of the tissues and giving off of the same.

Gangrene is destruction of all the tissues of the part, resulting in death of the part.

When the discharge of pus is profuse it is a great drain upon the system, and the strength should be kept up with nourishing food given at shorter intervals than ordinarily, and such stimulant as the surgeon orders.

A *surgical ward* is full of dangers, and every possible precaution must be taken not to convey poison from one patient to another by any utensil, instrument, towel, rubber sheet, or by the hands or clothing of the nurse, etc. All the fresh air that is possible must be secured by day and night.

Treatment of wounds.

In all cases *rest* to the part should be secured. Where there is no laceration cold and soothing lotions are required. If there is laceration, antiseptic dressings are used to prevent or to destroy infection.

SURGICAL NURSING

First requisite.

The first requisite in surgical nursing is absolute cleanliness. Every utensil used, everything about the patient or the bed, dressings and instruments, and the places in which all these things are kept, the person and dress of the nurse, each and all must be faultlessly clean. The care of all these matters belongs exclusively to the nurse. If, for instance in a hospital, she comes to a bedside with her hands full of all sorts of things,—towels, ragged bunches of lint, sticking-plaster, scissors, vaseline, all in a confused mess,—and distributes them on several chairs, the next vacant bed, and the bedside table, with which all sorts of persons may have come in contact, she very likely has wiped up some impurity, which will be con-

veyed to the wound she is about to dress. Order, which includes cleanliness, is the surgical nurse's first law. Everything must be ready before she begins her dressings. It will never do to stop, after having begun to handle the soiled dressings, to go after this or that, or to touch any clean article to be used about the wound. This rule for hospitals applies with equal force to the private house when there is a surgical case to be nursed.

No amount of theoretical knowledge will take the place of careful, intelligent practice, which alone gives steady nerves and a ready hand.

The surgical-dressing table or, in small hospitals, the tray or basket, must be kept in perfect order, a place for everything and everything in its place, accessible and ready for immediate use.

All ward instruments are under the nurse's care and she is responsible for their perfect condition and sterilization before using and during the process, and also for all dressings, towels, pus-pans, basins, etc.

It must be understood that however clean any of these articles may have been when commencing the dressing, they are unfit for use if dropped on the floor, or touched by any sort of impurity. A nurse who will hand to a surgeon at work any instrument, pan, towel, dressing, etc., not surgically clean has mistaken her calling. Gauze dressings must be cut from the original package in only the required quantity; any piece which may be left over is *not to be returned* to the package; and the same precautions are to be taken with sutures and ligatures; they must be resterilized if not used before returning to the original package. No assistant must be present who has not attended to personal cleanliness for the occasion.

Surgical dressing.

After the dressing-table is entirely ready protect the bed under the part of the patient which is to be cared for with a rubber cloth covered with a sterile sheet. Cover also the adjacent bedding and the patient's clothing with dressing sheets well tucked in.

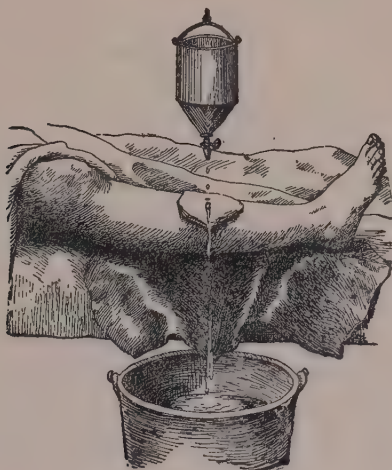
Now remove the *outer* dressing which may have to be handled, unrolling bandages and gathering them in the hand as you unwind them. Cover the patient with a clean sheet and blanket and *disinfect your hands* before beginning dressing. Scrub them with a sterile brush and under running warm water where possible, using green soap, spreading out the fingers and reaching every crack, particularly about the finger-nails. Rinse them off with alcohol to dissolve the soap, and dip them in the disinfectant in use. If gloves are to be worn put them on in the solution.

Remove the soiled dressings with the disinfected forceps, and proceed as ordered by the surgeon. If adhesive plaster is used to hold dressings in place or for any other purpose, never take hold of one end of a strip to pull it off; take it by both ends and draw them towards each other. Alcohol is useful in helping to remove it. It is sometimes proper to remove one strip and clean the part and renew it before removing another. By these precautions the wound is less likely to be disturbed. The part to which adhesive plaster is applied should, if hairy, be shaved.

When oil is required for any purpose about a wound, or for the surgeon to dip his fingers in, vaseline is generally used. Always put a little in a saucer, enough for the time, and never allow fingers to be dipped in the common bottle; disease could easily be conveyed in this way. Throw away all that is left in the saucer.

In cleansing a wound by irrigation continue the process till the liquid flows clear. In throwing it from a syringe refill the syringe before it is entirely empty, and if from an irrigating jar, see that the jar is sufficiently full before commencing and is kept so.

Direct irrigation.—In employing direct irrigation in the treatment of wounds or inflammatory conditions, Wharton says, "A funnel-shaped can or glass jar with a stop-cock at the bottom, or a rubber bag, is suspended over the part at a distance of a few inches; the can or bag



Direct irrigation.

is filled with water, and this is allowed to fall drop by drop upon the part to be irrigated. An improvised irrigator can be made with a bottle and a piece of ball lamp-wick. The irrigating fluid may also be allowed to pass directly into drainage tubes inserted in the wound or incisions in the part. The water employed may be either cold or warm, according to the indications in special cases. If it is

desirable to make use of antiseptic irrigation, the water is impregnated with carbolic acid or bichloride of mercury; a 1 to 60 to 80 carbolic acid solution or a 1 to 4000 to 8000 bichloride solution; or normal salt solution, is frequently employed with good results. In applying this method of treatment the wound and surrounding skin should first be cleansed and foreign bodies removed; the limb should next be arranged upon pillows covered by rubber sheets or suspended from a wire cradle by strips of bandage so that the fluid passing over the wound can escape into a vessel and not wet the patient's bed. The skin of the limb for some distance around the wound should be rubbed with boric ointment, to prevent its becoming sodden from the continued presence of moisture."

In dressing wounds never touch the surface with the fingers, even if the hands are supposed to be aseptic. Use wads of cotton or gauze, carefully disinfected.

When dry dressings are used sterile gauze should cover the surface, over which cotton is placed, held firmly in position by a nicely-fitting bandage.

Gauze dressings are sometimes kept in place by strips of plaster; see that the strips are cut *evenly* along what would be the selvage, which must be removed. If not carefully cut they draw unevenly, one side being looser than the other and the dressing is not firmly held.

Drainage tubes.

When these are taken from the wound for the purpose of irrigation, they are to be burned if of gauze, and if of rubber they must be wiped off to remove discharges, boiled for five minutes, and put in a disinfectant till replaced.

In replacing a drain, whether of gauze or rubber, measure the depth of the wound, cut the drain of the required

length, and place it in position with the probe. When it has touched the bottom of the wound, remove it a trifle, so that the wound may heal from the bottom and not be crowded open.

Gauze packing.—When this is ordered, push it gently and loosely into the wound with a sterile probe; never use your fingers.

Sutures.—The common sutures are of catgut, silk-worm gut, silver wire, kangaroo tendon, horse-hair, and silk. The latter should be boiled in one per cent. of washing soda ten minutes, wound on a bobbin, boiled again, and kept in a glass plugged with cotton. All the other sutures and the silk too, if preferred, can be soaked in a formalin solution before using.

Sutured surfaces.—Keep these surgically clean by irrigation if necessary. Vaginal, rectal, and perineal stitches require frequent douching with the saline solution. Exposed mucous membrane cannot be treated with any such irritant. After any operation in the region of the vagina or rectum, it is imperative that after urination and defecation there should be thorough cleaning of the parts with green soap and water. An aseptic dusting powder may then be applied.

The frequency of changes of dressings varies with the character of the wounds. Where there are no drains, dressings are sometimes not disturbed while the sutures remain.

Where there is discharge from a wound dressings should be more frequent. If it is virulent it may be necessary to change the dressing every few hours. If not profuse and there is good drainage, once a day or every second day may answer.

When the surgeon is to do the dressing, have everything ready for him, and a basin of warm water and clean

towels for his hands. Stand where you can best see and not interfere with him, and *anticipate* his wants.

Disinfecting solutions will be ordered by the surgeons in the strength required. They should be freshly made for each occasion, and kept covered. If tablets are used they must be most carefully dissolved and strained through gauze.

When each dressing is finished in a hospital ward, remove all possible sources of contamination.

Soiled dressings are to be put in a refuse basin, which must be emptied after each case.

Soiled towels and dressing sheets are to be rolled tightly and put at once into a special receptacle, never thrown on the floor, or tossed on the dressing table.

It is absolutely essential that instruments which have been used once should be *boiled* from two to three minutes; simply dipping them in boiling water will not answer. Knives should be wrapped in cotton before being put in the boiler, to protect their edges. Disinfect pus-pans and basins. Wash your hands with green soap; wipe off with alcohol, and go on to the next dressing.

When surgical rounds are over all instruments are to be washed first in cold water to remove all blood stains, etc., and then taken apart and scrubbed with hot water and soap, boiled for five minutes in clear water, dipped in bichloride solution, rinsed and dried with a sterile towel, and wrapped in another.

Glass tubes are boiled in a solution of soda and water and then in clear water and dipped in the solution.

Dressing rubbers and other rubber appliances are scrubbed and disinfected as before directed, page 29.

Gloves are boiled five minutes and wiped off with the solution and folded in a sterile towel. The surgical carriage is restocked.

Brushes with which a nurse scrubs her instruments, or her hands, are in either case to be kept *exclusively* for these purposes. They are never to be left where they stand a chance of being used by anyone else. They are to be disinfected, wrapped in sterile cotton and put aside with the other surgical appliances after each using, and should be renewed at short intervals.

The operating room.

Each hospital has its own outfit for its operating room. If a nurse is in charge no amount of care will be too much to insure perfect cleanliness. The room is liable to special infection from the presence of outsiders if there is a medical school connected with the hospital. The rough cleaning is done by attendants, but it is the nurse's place to see that it is properly done, and that all the woodwork and railing about the seats of the amphitheatre are frequently sponged off with a disinfectant.

All instruments under the nurse's care are to be cleaned as in ward practice before and after operation. Immediately before their use in operations they are to have rapid boiling for five minutes, and to be rolled in gauze until required. All trays, irrigating tubes and jars, all heaters for sterilizing, and the countless little essentials of the room, are under the charge of the nurse.

Leaving off a cover which should be on, forgetting a stopper which should be in, allowing dust on shelves, failure to disinfect sprinkling boxes, may offer a chance for the infection of wounds and defeat the most skilful operation.

Personal cleanliness of nurse.—Before an operation all the precautions taken in ward nursing are to be observed. Arms as well as hands are to be scrubbed and disinfected. (See page 229.) The hair should be entirely covered,

that no dandruff may escape. A perfectly fresh surgical gown must be put on, and *sterilized gloves*.

Preparing the patient for an operation.—The field must be shaved of all fine hairs, and twelve hours before the operation the patient should be given a thorough general bath in the bath-tub if possible, and if not, in bed, with all the usual precautions for protecting the bed. If the operation is abdominal section, for example, a cathartic is given the night before and an enema in the morning, with thorough cleansing of the parts; the hair about the pelvic region is shaved, great care being taken not to cut the skin. After the general bath wash the abdominal surface with hot water and green soap; begin at the site where the incision is to be made and scrub from it. *Pour water over* the spot you have scrubbed; change your swab now and then, and always rinse off the surface with clean water *poured* over it.

Alcohol.—Now wash the surface off with alcohol to dissolve all the soap, and sponge thoroughly with the bichloride solution and cover with a compress of sterile gauze wrung out in the solution and held in place with a many-tailed binder with perineal straps.

In the morning before the operation the patient may have light nourishment, not milk as a rule, and the soap suds enema must be repeated, if necessary, till it is effectual; a specimen of urine is saved for examination. The parts are to be thoroughly washed with green soap, the alcohol bathing repeated, a bichloride dressing applied, and perfectly clean clothing put on, tight fastening being avoided. The night-gown should be cut down the back its whole length. Just before etherization the patient must be catheterized if necessary; false teeth should be removed, and a woman's hair should be braided and then fastened tightly with safety pins in a towel. A sterile

sheet and blanket is placed over the patient, who must be kept as quiet as possible. Cover all the instruments and suggestive articles, and reassure her as to the absence of pain. You understand this, but it may be news to her.

During the operation

the nurse's duty is to wait on the surgeon and watch closely that nothing is handed him that is not surgically clean. The nurse is to be on the alert to see what is wanted, and for the rest is to keep out of the way of the operator when her services are not required.

The administration of ether or chloroform is no part of a nurse's work. It belongs to the surgeon. As, however, emergencies may arise in which the nurse may have to help in this way, she must by close observation in the hospital study the methods of administration. These can not be properly learned in any other way. The nurse must also study the *pulse* at such times, and know the various indications of danger in color of face, in respiration, and condition of pupils, in ether or chloroform, that she may at once recognize them if called upon to give the anæsthetic. The nurse will have to assist in quieting the patient.

Dr. Cooke says:

"The essential point in controlling the struggles of a partially anæsthetized patient consists in keeping all her limbs extended at full length so that she cannot get a 'purchase' on anything. Her arms must be held straight out at her sides, so that she cannot bend her elbows, and sufficient downward pressure must be exerted just above her knees to prevent her drawing up her legs.

"At about this time the patient will often begin to vomit, and at the first sign of retching her head is to be turned as far as possible to one side to allow the vomited matter to

escape from her mouth and prevent its possible entrance into the larynx. As this is done the lower jaw is to be drawn upward and forward as much as possible, and fresh ether must be administered freely, for the vomiting will stop as soon as the anæsthesia is complete. The mouth must be wiped out frequently with a towel, or with gauze or cotton in an ordinary sponge-holder, and care must be taken that the tongue is well forward and has not fallen back and occluded the throat."

After-care of ether patients.

The bed.—Have the mattress as firm and even as possible; over the lower sheet and draw sheet put a blanket pinned at the four corners to the mattress. A towel pinned in the same way takes the place of a pillow. Three or four hot bottles must be in the bed where the body will lie. A blanket is to take the place of upper sheet, and several must be at hand for immediate use. The hot water bags must be kept hot and taken out of the bed just before the patient returns. They are then to be wrapped and *fastened* in flannel and placed about the patient, *a blanket intervening*. The vitality being lowered and the patient partially unconscious, *burns from hot bags may easily occur* if the nurse allows them to be uncovered or to touch the surface. She must watch them all the time. All draught must be guarded against, and as there is apt to be restlessness, the patient must be *kept* covered. A small wrap across the upper part of the chest and shoulders should be used. The patient is to be kept flat on the back.

If there is vomiting, turn the head to the side and slip a basin under the chin or thick folds of a towel. The mucus which collects in the mouth should be removed by the finger wrapped in gauze.

Give nothing to drink till allowed by the surgeon. A swab of gauze may be wet and passed over the tongue and round the teeth. Hot water in teaspoon doses is sometimes given every fifteen or twenty minutes. After several hours small but frequent doses of albumen water may be given. Cracked ice simply increases thirst, and overloading the stomach with cold water may increase nausea.

When nausea has ceased a flat pillow may be slipped under the head. The feeding will be ordered by the surgeon. The catheter may be ordered used once in eight hours unless the patient urinates naturally. There must be no straining, and during defecation stitches must be supported by the nurse's disinfected hand. Cleanse the parts carefully afterwards. Aseptic powder relieves irritation if there is smarting or chafing.

A stimulating enema may be needed at once; have one freshly made and ready for the emergency; milk and whiskey will answer. Take the temperature and pulse as soon as the patient is returned from the operating room.

When the patient is allowed to turn in bed the nurse, passing her hands under the shoulders and hips, must turn the *whole body at once*. Allow no twist or strain upon the wound. Small cushions or pads made of sterile sheets rolled up can be used to ease the position, giving support here and there.

Feeding.—After abdominal section and in some other operations liquid food only is given for about a week. Soft food follows and solids when ordered by the surgeon. For relieving thirst, see page 72.

Very little food is required during the first three days, and this should be arrowroot, milk with lime-water, or whey, or hot milk alone, or barley-water; if more

strengthening articles are required, they will be essence of beef or strong chicken-tea. Stimulants will be ordered by the doctor, and are generally brandy and seltzer-water, and champagne.

No one is to be admitted to the room without the doctor's permission, and all mental exertion or excitement is to be avoided.

These directions are applicable to all operations about the abdomen, and in general answer for any surgical case.

Appendicitis.

Appendicitis is an inflammation of the vermiform appendix. This inflammation may involve the mucous membrane of the appendix, the entire wall of the appendix, or it may extend to the peritoneum adjacent. The first class of cases is the simplest, and from these attacks the patients regularly recover, to suffer perhaps later from subsequent attacks.

Where the entire wall of the appendix and the peritoneal covering are involved the attacks are always serious and infection with the formation of pus likely. Up to the time of this condition it is possible for a patient to recover from the attack without operation. When once pus has formed an operation is indicated. An operation is also indicated in cases of recurrent mild appendicitis where the disease seems progressive, the operation at this time being attended with a minimum of risk.

Symptoms of appendicitis.—The noticeable symptoms in a case of appendicitis are nausea, vomiting and constipation, fever and rapid pulse, sometimes chills. The local signs are pain and tenderness, low down in the right side; sometimes a mass may be felt in this region, and there may be tympanites. Of all these symptoms the most important is the pulse condition. Chills, high fever, the

presence of a mass, and tympanites, indicate very serious trouble.

The operation.—The operation differs in no respect from other abdominal operations as regards preparation and nursing, save for the fact that the abdomen should be *gently* prepared, as any rough manipulation might rupture a thin-walled abscess.

The after-treatment is similar to that in any abdominal operation, except that probably not even liquids will be allowed, and the nurse must do all that she can by cleansing and moistening the mouth and lips to alleviate thirst, for which, if it becomes excessive, the surgeon will probably order high enemas of warm water or saline solution.

The repair of wounds.—Where a wound heals in the continuity of all the structures severed, the process is known as healing by first intention. This is the ideal result. Where an open wound heals without infection or suppuration the process is called granulation, which is the formation of minute tufts of vascular tissue springing from the surface of the wound, having a red appearance and bleeding easily when healthy. In satisfactory healing the granulation starts at the bottom of the wound.

Symptoms to watch.—Watch temperature, pulse, and respiration and all the changes in the symptoms, and report the slightest of them. Notice any change in the color of the discharge from wound or color of the face; any increased restlessness, or loss of appetite; whether the urine becomes scanty or thick, or deposits urates on cooling.

Should there be vomiting, coughing, or sneezing, the nurse should give the abdomen gentle, but firm support. Try to check vomiting by teaspoon doses of champagne, or a little brandy, and rectal stimulation if it is allowed.

Sickness of the stomach is often due to weakness only,

and two ounces of beef-tea—the strongest preparation—should be given very slowly when this seems to be the cause. Begin with a teaspoon dose, and after waiting give a little more until all has been taken; give it cold.

Conditions which may follow operations.

Hemorrhage.—Hemorrhage is one of the serious conditions that may complicate an operation. It is primary or secondary. *Primary* hemorrhage comes on during the few hours after an operation, and in cases where the wound is external is generally quick to make itself manifest. Usually the nurse has been warned to watch for bleeding, and is on her guard. The wound, where there is reason to fear hemorrhage, should have gauze in moderate quantity over it, so that a small amount of blood can be detected. *If the hemorrhage is internal the increased frequency and weakening of the pulse will indicate it.*

Secondary hemorrhage is exceedingly grave. It comes on several days after an operation, and is due to the failure of repair in arteries.

Treatment of hemorrhage.—Hemorrhage is always likely to be serious, and the surgeon must be notified immediately. The nurse should notice the character of the bleeding, whether it is *arterial*, that is, rapid and bright red, or *venous*, that is, slow in coming through the dressing and of a dark, oozing character. She must watch for the effect upon the pulse.

If the flow is moderate and the location permits, and the bleeding is *arterial*, pressure must be made between the wound and the heart.

If the bleeding is *venous*, pressure should be upon the wound or beyond it, never between the wound and the heart. By the word “beyond” is meant between the wound and the extremity of the limbs.

In cases of slight hemorrhage in positions where pressure can not be made, *hot* or *cold* water applied directly to the surface may stop it. If too serious for that, the bleeding vessel must be clamped or tied promptly by the surgeon.

In addition to these directions there are a few simple methods which the nurse may try.

If the bleeding is from about the abdomen or pelvis, raise the foot of the bed on a strong chair to lessen the flow of blood to that part of the body. If it is *venous* bleeding, from any limb, pressure made by a bandage or any such thing, between the heart and the wound, *should be removed* and the limb raised as high as can comfortably be borne.

An extemporized tourniquet can be made of a tight roll of bandage, over which a handkerchief is loosely tied; under the knot pass a small stick, or clothespin, and twist it round and round tight. This will answer temporarily, applied between the wound and heart *when the bleeding is arterial*. After hemorrhage the patient may need the care given in shock.

Shock.

After surgical operations and severe injuries, extensive burns, loss of blood, sudden blows, etc., the patient not infrequently falls into a condition in which he is said to be suffering from "shock"; he lies in a state of prostration; the skin is clammy, the eyes dull, there is subnormal temperature, and there may be vomiting. The nurse's effort must be to excite the action of the heart and produce warmth. Raise the head not more than an inch or so; give brandy in teaspoon doses in a little hot water, until eight or ten have been taken; wrap hot bottles in flannel and put them between the thighs and under the

arms and over the heart, outside the blanket in all cases, and keep the feet warm. The object is to revive the patient, and the efforts must stop short of heating and exciting him. Strong beef-tea should follow the brandy closely. Black coffee may be given. A condition like shock produced by cold bathing and drinking ice-water, in time of great heat, when the body is exhausted, may be treated in the same way.

If the injury is to the head, stimulants are not to be given. To an unconscious patient spirits can be hypodermically administered, or by rectum. Strict watch of temperature and pulse must be kept. When the nature of the operation forbids anything taken by the mouth, milk and whiskey given as an enema are useful. In such cases have it ready in advance.

Erysipelas.

Of all diseases affecting surgical cases, this is by far the most contagious, and is always extremely dangerous with large wounds. Even with very simple wounds, when the patient is weak or debilitated, it is apt to prove fatal. A case of it will poison the atmosphere of a ward, or of a building, and this fact should never be forgotten by a nurse. At the first onset of the disease the patient should be isolated. The poison is also readily conveyed by the hands, a sponge, an instrument, and even by the hair or dirty finger-nails of a nurse or doctor. On this account, those who are attending a case of erysipelas should under no circumstances approach or touch other surgical cases, lying-in women, or any patients liable to be affected. When the erysipelas has disappeared, the nurse should not return to other patients without a thorough washing in carbolized water and a change of clothing. Patients whose vitality is lowered by suppurating wounds are

specially susceptible to contagion from this disease, and at no stage in surgical cases must there be the slightest exposure to its malign influence.

Local symptoms.—These are a sense of heat, and tension and pain in the skin. In a wound the secretions dry up, and the margins become slightly swollen and red. In from twenty-four to forty-eight hours a rash appears, is of a uniform rosy-red hue, circumscribed, and disappears on pressure. The bodily temperature runs up sometimes to 105° or higher, and there is headache, nausea, quick pulse, coated tongue. In old or feeble persons, or children, the disease is more dangerous than with others. In all surgical cases its appearance gives reason for anxiety.

The nursing will consist in efforts to allay the fever, and to keep up the strength. Nourishing and easily-digested food must be given, and cooling drinks, such as lemonade, tamarind-water, etc.

The local treatment, whether of any antiseptic solution or simply of cold water, must be faithfully kept up.

The room.—Keep the temperature at 65° – 70° all the time; ventilate by an open window in an adjoining room, or in the patient's room, protecting him from draughts. No one not required should come into the room, and in hospitals *the patient and his nurse must be isolated from every one*. The nurse should be careful of her hands, covering up any scratch or cut, washing them frequently, and not touching her face or eyes with her fingers; the disease is readily conveyed when the skin is broken.

In a private family where there are no arrangements for disinfecting articles by heat, etc., all unwashable material should be excluded from the room, such as stuff curtains and table-cloths, and heavy quilts, and unnecessary worsted furniture.

Bandages and dressing-cloths should be thrown into a

crockery jar with two ounces of carbolic acid to a gallon of water, and soaked; the solution can then be thrown into the water-closet, and the rags burned. For disinfecting and cleaning the room, see Chapter IX.

Pyæmia

is a septic disease characterized by internal abscesses and blood-poisoning. It occurs in connection with wounds, injuries to bones, etc. It is most frequently seen in the bad air of dirty or crowded hospitals, but may occur in a very low vitality without such a condition of the air.

Symptoms.—The characteristic symptom is a chill coming on suddenly, and accompanied and sometimes preceded by a rise of temperature. After the chill comes a profuse and exhausting perspiration, and the temperature falls, the skin, however, remaining hot and the breath feverish.

Care.—Perfect cleanliness, free ventilation, nourishing food are essential, with stimulants as ordered. The nurse must notice and report the least increase of temperature, and any unhealthy appearance or suppression of discharge from the wound; loss of appetite, chilliness, or any other unusual symptom.

The first paroxysm is followed in a few hours by another similar in character, the disease continuing in this way until the patient perhaps after weeks of suffering dies exhausted by the infection.

Bed-sores.

When any part of the body is subjected to pressure for a long time it loses its vitality; this would be the case even in health, but when a person debilitated by disease, paralyzed or wounded, is obliged to remain in one position, the skin covering the points of the body that are pressed

upon becomes congested and inflamed, and sometimes excoriated, without any pain being felt by the patient, the lowered vitality of the part having to a certain extent deprived it of feeling. The nurse must never, therefore, wait for complaints of uneasy feeling or soreness. She must daily examine for herself all the parts upon which pressure comes: the hips, the seat, shoulders, elbows, and heels, etc. It is not so much the severity of the pressure which is bad, but its long continuance on a part congested by position, in a feeble subject.

When a patient is likely to be confined to bed for many weeks, and especially in surgical cases where the union of fracture, etc., requires sometimes perfect rest in one position, every care must be taken from the outset to prevent pressure. A water-bed cannot be used in many surgical cases, a firm, unyielding surface being required, but such relief as may be secured by pads and cushions of different shapes, by air-pillows, and surgical appliances for slinging a patient, should be secured before it is actually needed. The person and bed must be kept perfectly clean and dry, the sheets without fold or wrinkle; the skin on the exposed parts bathed three or four times daily with alcohol, and the patient's general health must be kept up with nourishing food, sunlight, and fresh air. If the skin has already chafed, or a sore has formed, the manner of dressing will be prescribed by the physician; whatever this may be, however, it will be of no use unless all pressure is removed and the patient's general health built up.

Moving surgical cases, and positions.

When it is necessary to move surgical cases, do it with the greatest gentleness, and *do it slowly*. If they are to be put up on the pillow, *never drag* them, particularly in a hip-joint case. Lift very slowly, calling an assistant if

necessary, and put the patient down without the slightest jar. Do not allow a feeble person to make any exertion in moving. In amputation cases and others which need support, make a pad rolled up out of an old sheet, on which the part can rest while dressings are going on. Pads which cannot be washed or destroyed are not to be used about surgical cases. A cool and sufficiently soft pad can be made by filling a bag with bran, to be used during the case and burned afterwards. An inflamed part must always be put on a level with or above the rest of the body.

Ventilation.

In all surgical cases an abundant supply of fresh air from outside the house is indispensable. Soldiers treated in the open field will recover, when the same wounds cared for in tightly-built and poorly-ventilated houses frequently prove fatal. The common blunder, that by letting in fresh air one may "take cold in a wound," is a great mistake,—you *must* let it in wherever there is suppurative inflammation, day and night. Never let the patient be chilled; cover him up warmly, but keep the air pure. Pyæmia in hospitals, but not exclusively in them, is often the result of want of ventilation, and this is a thing for which the nurse is largely responsible.

Surgical operations in private families.

The preparation of the room is part of the nurse's duty. She must always superintend it, or where there is poverty attend to it herself. Do not sweep the room; germs which are dormant are stirred up by this. Every part of the walls must be wiped with a cloth over a broom, the carpet wiped with a damp cloth, the paint and windows washed, the bed sponged off with a disinfectant, the

curtains taken down, the lower panes of the windows, if exposed to the opposite houses, sponged over with a thin coat of whiting, and articles of furniture covered with sheets to reflect light. The strongest table in the house will probably be the kitchen table; it must be scrubbed and disinfected.

The patient's bed must be made ready. The mattress should have been beaten and brushed in the open air and the bed made freshly for long occupancy. A fresh night-gown cut down the back in its whole length will be needed. The room needs free airing before the operation, as the windows are shut at the time. The temperature should be about 75° , and a fan should be at hand.

Preparation of the table, etc.—The table having been scrubbed, cover it with a folded blanket, over which is a large rubber sheet and a perfectly clean cotton sheet; fasten them all *firmly* with safety pins round the table legs, or tack them in position; there must be no slipping. Cover the carpet near the window with a rubber sheet or thick papers, and tack a sheet over this. Stand the table on the sheet. Have ready a small flat pillow and sheet and blanket to use for the patient. There must be at hand two or three basins which have been boiled, disinfected and rinsed, two slop-jars, surgically clean, a large can of water that has been boiled and cooled, and the same of boiling water (these must be kept full of water in the same condition), two new brushes for cleansing, green soap, alcohol, sterilized gauze, safety-pins, absorbent cotton, such bandages or binders as the surgeon directs, the solution ordered, freshly made, and not less than two dozen sterilized towels; also a couple of chairs, strong and easily moved, and two or three small tables covered with sterile gauze or towels, on which the instruments are placed; a fountain syringe, douche-bag, a strong hook in

the window frame to hold the bag, and an alcohol lamp, over which can stand a pan of boiling water for immediate disinfecting of instruments. There should also be at hand whiskey and milk in case a stimulating enema is ordered after the operation; and the nurse should see that the kettle is kept boiling over the kitchen fire. The nurse's further duties for cleanliness and disinfection are identical with those mentioned for operations in hospitals, with any modifications or changes which the surgeon may order in accordance with the nature of the case. All preparations should be made away from the patient's room, or where this is impossible, the bed must be protected with a screen, or at least turned in such a position that the preparations are shut off. It is of great importance that the fears of the patient should not be excited. A quiet mind and a determination to get well will go far towards securing that result.

The nurse, while treating the family with the greatest consideration, must keep all their expressions of anxiety from the patient, and allow no one to go into the sick room without the surgeon's permission.

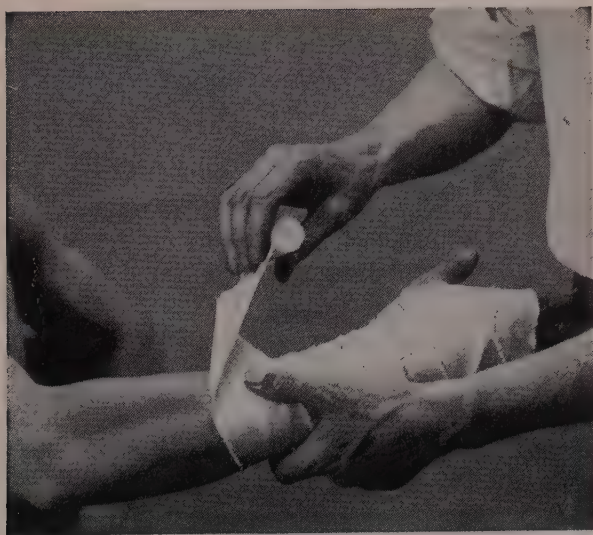
Whatever the operation may be, whether a slight or serious one, the wounded surface makes chances for infection, and all the directions given for surgical cleanliness must be observed, whether the patient is in a hospital ward or in a private house.

Precautions for the safety of the nurse.

When in an operating room or when doing surgical dressings, do not touch your eyes, face or lips. Do not use your handkerchief near a surgical bed. Be careful in using pins or any sharp-pointed object. A slight prick uncared for may be the entrance for infection. All cuts and scratches are to be washed and covered with flexible



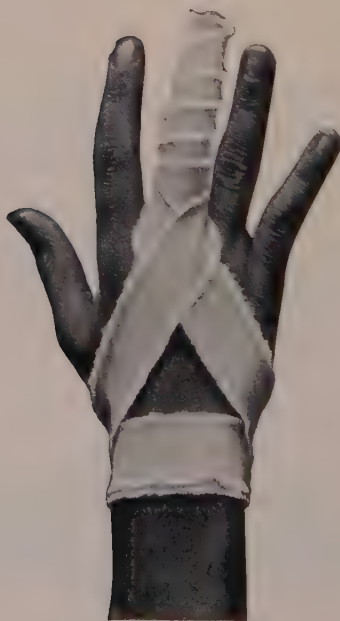
Rolling bandage by hand.



Making reverses.



Figure-of-eight bandage of the elbow.



Spiral bandage of the finger.



French bandage of the foot.



Spica bandage of the foot.



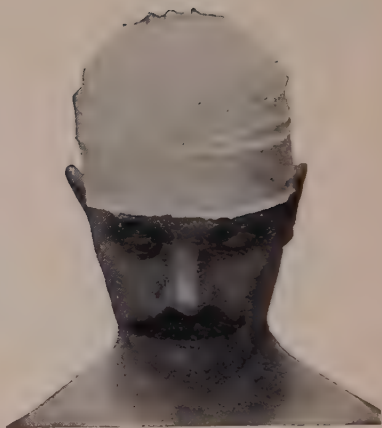
Bandage of the heel.



Spiral reversed bandage of the leg.



Oblique bandage of the jaw.



Recurrent bandage of the head.



Velpeau's bandage.

collodion. Use glycerine or some such thing on your hands at night. Rough hands cannot be kept surgically clean. Cut the nails short; wash the hair frequently. Never wear about the hospital or house aprons or sleeves in which you have done dressings. Disinfect your hands carefully after each dressing.

In caring for tuberculous joints, even where there is no open wound, use all these precautions. Keep your mouth closed, breathing through the nose only, and avoid the sputa or nasal discharges of such patients.

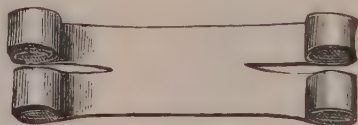
BANDAGES.

Roller bandages are strips of different length and width, varying from one to four inches or more, of loosely-woven cotton or flannel, rolled tightly before using and slowly unrolled as they are wrapped about the limb. The bandages should be without selvage, and should have been shrunk before being rolled. If unwashed material is used, the dampness from moist applications may shrink the bandage unevenly and make it uncomfortably tight. An old cotton sheet previously boiled is a good material to use.

A bandage should never be tighter in one place than another; if it is, the whole thing is likely to come off, and the unequal pressure is an injury. Do not let the edges of a bandage cross any sore spot; the tender place should be covered by the full width of the bandage; and in applying it, always begin at the point farthest from the heart,—that is, to bandage the leg begin at the toes, or the arm, begin at the fingers. To piece a bandage, lay the two ends flat on each other, lapping them an inch or more, and basting them together on the four sides.

Make the edges in “reverses” parallel to each other and do not pull the bandage too tight.

(Various ways of applying the roller bandage are shown by the illustrations given.)



Four-tailed sling.

For a binder as many tails as are required are secured by increasing the width of the four-tailed sling, the uncut part of which may be reinforced with another fold of cotton stitched on to increase its strength or comfort. Plain strips of stout cotton hemmed all round are also used as binders.



Modified bandage of Scultetus.

This modified Scultetus bandage is the one which most surgeons employ to hold dressings to the laparotomy wound and to give support to the abdominal walls after this operation.

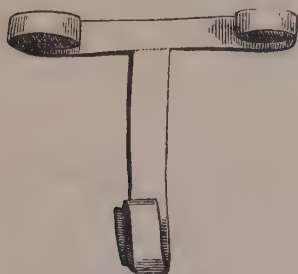
In preparing this bandage for the abdomen, a strip of muslin or flannel, one and a half yards in length and from eighteen to twenty inches in width, has the extremities split so as to form a five-tailed bandage; or it may be made by stitching together in their centre a number of overlapping strips of flannel about three or four inches in width, two strips of bandage, as in the cut, being strongly stitched to the back of the binder.

Handkerchief slings

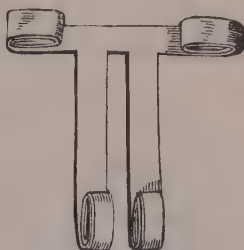
are only large square pieces of cotton, or a large handkerchief, tied round the neck by the corners to support the arm. It should be brought above the elbow point, and extend to the wrist; or, if the hand is to be supported, to the tips of the fingers. It is sometimes used to support the jaw, or to hold dressings under the arm.

T-bandage.

Besides the ordinary roller bandages, one made in the shape of the letter T is often needed, and can be applied



Single T-bandage.



Double T-bandage.

to various parts of the body where a straight strip is unsuitable, or when dressings to the chest, back or abdomen are to be held in place.

Many-tailed bandage.

This is a long strip or binder crossed by short strips fastened at right angles. It is useful because without moving the patient in the least it can be undone and the part examined.

The starched bandage.

The starched bandage is prepared by first mixing the starch with cold water until a thick creamy mixture results; this may be heated until a clear mucilaginous fluid is obtained. The part to which the dressing is to be applied is first covered with a flannel roller, and over this a few layers of cheese-cloth or crinoline bandage which has been shrunk are applied; the starch is then smeared or rubbed with the hand evenly into the meshes of the material, and the part is covered with another layer of turns of the bandage, and the starch is again applied. This manipulation is continued until a dressing of the desired thickness is produced. It usually requires from twenty-four to thirty-six hours for the starched bandage to become dry and thoroughly set. The starched bandage may be employed for the same purposes as the plaster-of-Paris bandage, and is often available when the plaster-of-Paris bandage cannot be obtained.

Silicate of potassium or sodium bandage.

This bandage is applied by first covering the part with a flannel roller and several layers of cheese-cloth or crinoline bandage; the surface of the latter is then covered with silicate of sodium or of potassium, applied by means of a brush; then a second layer of bandage is applied and painted over in the same manner with the silicate of sodium or of potassium, and this manipulation is continued until a dressing of the desired thickness is pro-

duced. It usually requires twenty-four hours for this dressing to become firm, but a good device to quicken the process, and to give strength without materially increasing the weight, is to lay thin strips of wood which come for lighters, and are called "spills," between the different layers of the bandage.

Plaster-of-Paris bandage.

Prepare for the surgeon strips of very thin, soft muslin of the required width, two and a half inches wide and five yards long. The cloth sold under the name of "cheese-wraps" is best, being an unbleached muslin with very wide meshes, and entirely without sizing; sizing interferes with the setting of the plaster. Lay the near end of the strips in a flat tray in which there is a pint or more of plaster-of-Paris of the best quality and perfectly fresh; roll the bandage up in the plaster, rubbing the plaster in with a spoon, as you draw the strip through it towards you; or have a second person put on the plaster with a dredging-box as you roll the bandage, the point being to fill the whole length and width of the bandage with the powder. When the surgeon is ready to apply it, dip the rolls for a moment in water until they have taken up all that they will; then squeeze them slightly, and they are ready. Hot water will set the plaster more rapidly than cold, and hot salt-water more rapidly than either. A flannel bandage is first applied. Test the quality of the plaster beforehand by mixing a little to the consistency of cream and seeing how soon it will set. Great inconvenience is caused by failure to set promptly when applied. Fifteen minutes should be enough. *To remove plaster-of-Paris from the hands* dissolve a tablespoon of washing soda in a basin of water and use.

Undressing patients.

All clothing must be put on and off with as little effort as possible to the patient. Never drag off the trousers if a leg is wounded. Slit up the outer seam, and they are taken off very easily; if the arm is injured, slit up the sleeve through the shoulder and band. The clothing can be fastened afterwards with strings. In many cases it is necessary to cut the clothing off as quickly and easily as possible, but it must never be unnecessarily destroyed. Remove it from the well side first.

CHAPTER VII.

NURSING SICK CHILDREN.

SOME INFANTILE DISORDERS.

What can be learned by the cries of a young child.

CRIES are the only language that a baby has to express its distress, and by observation the cause of distress is often ascertained.

The cries of a baby with stomach-ache are long, loud, and passionate, it sheds a profusion of tears, drawing up its legs to its stomach, and when relieved, stretches them out again and sobs itself to sleep. In inflammation of the chest, the cry is not loud, it is often checked before half finished, and there are seldom tears, though the child is evidently distressed. In diseases of the head the cries are sharp; the child will doze quietly at times, but on waking will utter piercing shrieks.

The advantages of a warm bath given when a child is first taken ill.

The warmth of the water is soothing, and the nurse has the opportunity of carefully examining the whole of the child's body, and if there is a rash about to appear, the bath will throw it out.

Guard against unnecessary exposure. The bath may be given at a temperature of 98°, and the child may remain in the water five minutes. When taken out it should be wrapped in a warm, soft blanket for a few moments that a part of the moisture may be absorbed, and then a portion of the body may be wiped by soft, thick towels without exposure of the rest. A warm bath is

often made a source of needless distress to a timid child. Let the bath be prepared out of sight and brought to the bedside covered with a blanket; the child can then be gently let down into the water, blanket and all, without excitement.

Different rashes.

Measles appears as a number of dull red spots, in many places running into each other, and usually first about the face and on the forehead near the roots of the hair, generally preceded by running of the eyes and nose, and all the signs of a severe cold. *Scarlet fever* appears first about the neck and chest, but not unfrequently at the bend of the elbow or under the knee, and is usually preceded by sore throat and by vomiting. The bright red color of the skin in scarlet fever, where the color approaches that of a boiled lobster, serves to distinguish this eruption from the less lively color of the rash in *roseola* or *erythema*, names given to a skin eruption which often accompanies simple digestive disturbances of infants.

It is well for the nurse to understand distinctly that two names are in common use for this disease,—the English name, *scarlet fever*, and the Latin name, *scarlatina*, and to guard against the idea that *scarlatina* is any other, or any milder disease, than scarlet fever. The two are identical.

In *chicken-pox* the eruption consists of separate pimples, coming out generally over the whole body. In some cases the disease may run its course with but very slight constitutional reaction and almost without fever.

Symptoms of importance in the early stages of disease.

These are the condition of the body, whether warm or chilly,—whether one part is very warm and another chilly; observe how the child likes to lie, whether flat in bed

or propped up; whether the light distresses it or not; carefully mark every evidence of pain (continued wrinkling of the forehead, whether with or without crying, indicates steady pain), and whether the symptoms increase as night approaches. You must be able to report exactly how the night has passed. If the child is restless, it may be from thirst or from difficult breathing. Notice the way in which the child sleeps, whether it dozes heavily, whether the lids are wholly or only partly closed, and whether the breathing is hurried or accompanied by any peculiar sound; be very careful to observe whether the nostrils move up and down with the effort to breathe. If the child coughs, notice whether the cough distresses or simply disturbs; whether there is any difficulty, such as prolonged bearing-down in the act of defecation or of urination, and whether the child seems to have pain in emptying either the bowels or the bladder. Remember, that upon your report the physician must rely greatly in determining the nature of the disease.

What may be learned by the expression of the face.

The face, by its varying expressions, gives very valuable indications of disease. When a child has disturbance of the stomach and bowels there is often a peculiar chalky whiteness of the skin about the mouth and the nose, and a deepening of the so-called *naso-labial folds*, the creases in the skin running from the sides of the nose to the angles of the mouth. A contraction of the nostrils often indicates pain in the abdomen,—when accompanied by a drawing up of the legs and by rigidity of the abdominal walls, it is a sign of colic. When the face flushes and pales suddenly, with sensitiveness to light or noise, and restlessness in sleep, the brain is probably affected, and squinting of the eyes and inequality

of the pupils are important indications of impairment of brain function.

Things to which you must give attention in disorders of the brain.

The room must be kept cool. Darken the room by letting down the blinds, and by shading at night any light that may be in use. The house must be kept quiet, and there should be as little movement as possible in the apartment. Extreme gentleness in speaking to the child is essential. Never allow it to be suddenly roused, and in turning it in bed use some customary term of endearment. If necessary to raise the head, pass the arm under the pillow, and with soothing words administer medicine or nourishment.

The proper way to apply cold to a child's head.

Cold is best applied by bladders or india-rubber bags half filled with pounded ice and wrapped in a napkin, which can be so arranged and pinned to the pillow that the entire weight can be kept from the child's head.

Diseases of the air-passages in children.

A short abrupt hacking cough is suspicious, and a bad sign is when children cough more on being laid on either side than on the back.

Expectoration is generally absent in children under five or six; they are too young to go through the motions, they swallow the sputa; it can be obtained for inspection by wiping the root of the tongue immediately after a paroxysm.

The expression and color of the face do not change in light cases, but if serious illness follows, the face is flushed and the head hot.

The breathing in serious cases is difficult; "râles" are heard, and the nostrils rise and fall with each breath. The effort is greater with expirations than with inspirations. The mouth is open and the angles of it drawn down; the eyes are glassy or restless.

The cry of children with serious trouble of the air-passages is low and short like a moan, and the expression of the face shows pain. All these symptoms probably indicate pneumonia, which for a young child is a very dangerous thing. A bronchial catarrh has probably preceded them, and gone unnoticed.

When children are first attacked in this way they are to be kept in an even temperature, confined to one room, unless the air, even in summer, is perfectly warm and dry. Their clothing should protect the chest and arms, and no wet bib must be allowed to dry on the child. The food must be gruels, broth, and milk; it is safe to give as much cool water as the child wishes. Keep the air pure and *free from dust*. All orders from the physician are to be strictly followed, and his advice asked as to bathing the child or not.

Important things in diseases of the chest.

The temperature of the room requires particular care. Cold air will not only distress the child, but will increase the disease. Be careful that the thermometer is kept as directed by the physician; lacking this direction, never allow the temperature to fall below 65°. A warm room and light covering are proper in all cases of inflammation of the lungs. The position requires attention: if the little one breathes with difficulty, bolstering the child up, almost to a sitting posture, will often enable it to get a deeper breath.

It is of the greatest importance to keep the child quiet:

all exercise of the lungs in crying or talking will increase the inflammation. Exert yourself therefore to keep it tranquil. No rules can be given. Soothe the child by every gentle way a woman knows.

How croup is distinguished.

Many forms of irritation, particularly of the respiratory and of the digestive tract, will bring on, in nervous children, a peculiar spasm of the muscles of the throat, known as *croup*.

In these spasmodic attacks it is evident by the sound of the breathing that the air during inspiration enters the lungs through a very narrow opening, and the breathing is often so labored that the little patient may even become quite blue in the face and seem exhausted by the efforts it is obliged to make to breathe. The attack is accompanied by a peculiar, loud, barking cough.

The condition, though distressing to witness, *need not cause alarm*, save for the reason that similar symptoms occur in the course of actual inflammation of the throat.

In differentiating between these two conditions, the cardinal fact to be borne in mind is that a spasmodic difficulty may come on suddenly in its full force, while an *inflammatory process* always develops, even if its progress is rapid, *by degrees*.

Persistent hoarseness and sore throat for some hours or days beforehand, gradually becoming aggravated until difficulty in breathing asserts itself, are characteristic of the grave disease sometimes known as *membranous croup*, but generally, in fact, either a diphtheritic or a scarlatinal laryngitis; while *sudden onset*,—the child generally *waking in the middle of the night* with the peculiar croupy cough and pronounced difficulty in breathing, yet without having shown noticeable sore throat or hoarseness during

the preceding day,—is characteristic of harmless *spasmodic croup*.

Spasmodic croup will generally subside spontaneously in a few hours, and too active measures should not be taken to overcome the symptoms. Pains should be taken to get the room warm, if it be cold, and to keep the child protected from draught, and as quiet as possible. The patient will probably be able to breathe easiest in a sitting posture. So slight a thing as a drink of water and gentle rubbing of the throat will sometimes be effective. Placing the child in a warm bath will tend to relax the spasm of the muscles. A moist atmosphere tends to relieve the breathing; this can be secured by keeping water boiling in the room. A child subject to croup should have its diet carefully looked after and its bowels regulated; it should be guarded also, with unusual care, from changes in the weather.

Only in the face of great severity of the symptoms is it wise to turn to the time-honored remedy for croup,—an emetic. The dose of this should not be an excessive one. Free vomiting only is wanted, not protracted retching; but if an emetic, such as ipecac, is given at all, it must be pushed to the point of actual vomiting, so that the drug shall not remain in the stomach to be absorbed, but shall be expelled along with the other stomach contents.

How doses of ipecac should be given.

It is better to give small doses, and repeat them, if necessary. For this purpose about half a teaspoonful of syrup of ipecacuanha may be given to a child under a year old, and repeated in twenty minutes if no vomiting occurs. When free vomiting has been produced, one-half the quantity can be given at the same interval, so as

to keep the child slightly nauseated. A child between one and two may have a half larger dose, and a child a year older may have double the doses of the child under one year, and for the succeeding years the doses may be proportionately increased.

The different dangers in fevers.

In each fever you will have to be on the watch against a different danger.

In measles the risks are those of inflammation in the lungs, in the ears, and in the eyes. In scarlet fever, the ulceration in the throat may cause the child to choke, either by the presence of false membrane, or by mere swelling of the narrow glottis; inflammation of the ears is also to be dreaded, and acute inflammation, resembling rheumatism, of the joints; but the complication which the nurse should be most watchful of is that of inflammation of the kidneys. On this account any scantiness or peculiarity of the urine, vomiting, and any bloating of the face, especially about the eyes, and swelling of the ankles, should be brought to the notice of the physician. Careful attention to the warmth of the body, and the plentiful administration of simple drinks are the best measures the nurse can take, in the absence of more specific instructions, to obviate this serious complication.

In any disease it is well to inquire of the physician what particular complications are to be dreaded, and what symptoms he may wish to have specially watched for and reported to him.

General directions for fevers.

Most fevers have a certain course to run, however mild, and the dangers which attend them are not altogether absent at any part of their course, and may, by

acts of imprudence, be brought on at once. There are days of waiting and watching, when everything must depend upon the nurse. The child can be comforted and cheered. Sponge the skin frequently with lukewarm water, moisten the parched lips, and give a tablespoonful of water to the thirsty child; offer it in a tiny cup, and a small quantity will then be taken with satisfaction. Keep the room well aired, and let the child's clothes be kept sweet and clean; let the bed-linen be frequently changed. Never allow the diet to be interfered with; observe the strictest obedience to the physician's orders, not only in doing punctually all that is prescribed, but in abstaining from doing anything that has not been ordered.

Care in diseases of stomach and bowels.

When there is a disposition to nausea, it is well for a time to allow the stomach complete rest. A single teaspoonful of cold water may be given, and if retained, very small quantities of barley-water, chicken-broth, or whatever food has been ordered. *The smallness* of the quantity of the food given, and giving that *cold*, are the chief points, though it is of scarcely less importance that the child be kept absolutely quiet. In diarrhœal diseases, on the other hand, cold liquids may be found to provoke a stool very promptly, while the same quantity if warm might have been given with impunity.

Care of the skin in these diseases.

The skin about the anus, in children suffering from diarrhœa, is apt, without most scrupulous care, to become irritated, or even actually sore. Extreme cleanliness is necessary, but in some of these cases soap and water will be found to increase the irritation. In such cases, thin starch, very much thinner than is used in the laundry, will

not only serve every purpose of cleanliness, but will soothe the irritated skin. If there be already soreness, after drying the child carefully, dust over the parts a powder of the compound stearate of zinc, or apply zinc ointment spread on a soft linen rag. In bad cases ask the physician for special directions.

Summer complaint.

"Summer complaint" is the name commonly given to the disease which involves the mucous membrane of the bowels, and is one of the most fatal disorders among children under five years of age.

Excessive heat, combined with atmospheric impurities; teething; and improper, or contaminated food, are the exciting causes; but the trouble is recognized as due to a germ.

Symptoms.—The disease generally begins with more or less diarrhœa, but may come on suddenly with vomiting and purging, or the child's digestion may have been disturbed for awhile. The pulse is frequent and tense; there is feverishness; often severe pain in the intestines, which is increased by pressure, and sometimes the muscles of the abdomen and of the extremities contract spasmodically. There is excessive thirst and little appetite. The discharges from the bowels are at first fluid and frothy, sometimes tingeing the napkin green and sometimes bloody. Frequently the food passes rapidly through the intestines without undergoing any change. The child is restless, with increased feverishness, sleeps with eyelids half closed, and loses flesh rapidly. In the earliest symptoms a physician must be called.

Nursing.—The child should have a warm bath daily, given without exposure, and continuing three to five minutes, and repeated cool sponging throughout the day with

alcohol, but pains must be taken to keep the hands and feet from becoming cold. Avoid moving the child; turn it with all possible gentleness. The nightgown can be torn up the back and changed with little disturbance. If intestinal irrigation is ordered, see page 212 for administration. Normal salt solution is used (one drachm to one pint), page 231. The diet must be restricted to the mother's milk if the child is still nursing. In severe cases all milk is omitted; plain barley-water can be given at the usual feeding times, in about one-quarter to one-third the amount that would ordinarily constitute a feeding, adding to each feeding as many drops of brandy as may be ordered. Or all feeding may be stopped for half a day, giving, at the usual feeding time, only the brandy, and large quantities of boiled water, cooled. The child should lie on a firm mattress, not on feathers, and the bedding should be light; the room kept cool; a wide flannel bandage worn all the time, and the child taken as much as possible into the open air. An entire change of air is of the greatest service when it can be secured. Absolute quiet is essential.

Should there be irritation from teething, the child may be relieved by lancing the gums.

The responsibility of a nurse when exhaustion follows in diseases of the bowels.

Protracted disease leads to a condition of exhaustion in which the responsibilities of the nurse become very great. The child often loses all desire for nourishment; it will lie almost motionless for hours, with eyes half closed, perhaps apparently asleep, seeming fretful only when aroused. Yet, if the child is allowed to go without nourishment, this quiet lethargy, which is a form of collapse, will end in death. Carry out to the

letter every order that has been given you: this will require great perseverance and watchfulness. The nourishment refused one moment may be taken the next,—if there is difficulty in swallowing it, it is but an additional reason for repeating your efforts. There is life to be saved; realize this, and you will exert yourself to the utmost. Keep accurate records by weight and measure of the nourishment taken; a careful nurse will prepare the food herself. Never consent to leave your patient for one moment in inexperienced hands.

Disorders of the digestion.

With children who are still nursing these troubles are frequently due to the condition of the mother's milk; if she has eaten sour fruit, or acid or indigestible food, the baby suffers. Care on the mother's part will cure the child. But should the child have flatulence and griping, if it nurses voraciously and yet is not satisfied and becomes pale and flabby, the probabilities are that the mother's milk is not nourishing. A healthy wet-nurse should be secured, or the baby brought up by hand.

In the case of babies bottle-fed, troubles of the digestion are generally due to want of care on the part of the nurse. The saucepans, feeding-bottles, spoons, rubber nipples, etc., are not clean, and contaminate its food; the food is warmed over instead of being freshly prepared for each meal; the baby's mouth has not been kept washed after each time of eating; some or all of these things are likely to occur unless the mother herself has a careful oversight of the nurse and child; and attention to these matters will remove the trouble probably.

When diarrhœa accompanies other symptoms, until a doctor can be consulted, change the baby's food for a day or so; give it about half the usual quantity, making up

the balance in quantity (if the child is not satisfied) by adding boiled water; or cut off all food, but water, for twelve or eighteen hours. Lime-water added to the food, enough to make one-sixth or one-quarter of the total amount, may be found useful. Sponge the baby carefully in warm water at night; put a *wide* flannel bandage round the bowels. A teaspoon dose of castor oil may be given with safety, but nothing more without the doctor's advice.

Should the diarrhœa be long-continued and too free, so that the child seems weakened, send for the doctor.

Costiveness.—A very useful and simple treatment is to rub the baby's stomach and bowels night and morning gently with warm olive oil for ten minutes. A small suppository of Castile soap may be passed up and down in the rectum, and a very small tallow candle, or a long glycerine suppository may be used in the same way. No medicine must be given without a doctor's permission beyond a teaspoon of castor oil.

Worms.

Round worms and pin-worms are the varieties commonly seen in discharges from children's bowels. The only way of detecting the trouble certainly is by actual sight. Never try any of the advertised "worm-lozenges."

Give the child a dose of castor oil, and follow it the day after with injections of warm water and salt, keeping this up for four or five days, until no more worms are found in the discharges. Children with this trouble are generally delicate, and need nourishing food and some simple tonic.

Protrusion of the bowel.

Ignorant and careless nurses often bring this trouble upon children by the attempt to establish what they call

“regular habits.” A daily evacuation of the bowels is necessary, and the habit which such a disposition induces must be kept up; but great injury is done to young children and babies by inducing them to strain, and to sit over a commode until something has been accomplished. More than five minutes of this should not be allowed. Care as to food, exercise, cleanliness, and rubbing, with the use of the simple expedient of a little Castile suppository, is all that is necessary, unless the habit is so confirmed as to require a physician’s advice.

When through over-zeal protrusion of the bowel has been produced, lay the child on its back, raise the buttocks with a pillow, wash the parts very gently by squeezing tepid water over them, and then with the ends of the fingers gently and firmly press the bowel into place. If not successful, keep the child still and send for a physician, who should always be informed of this condition of things.

Bed-wetting.

Children who are no longer babies are often subject to great annoyance from the passing of water in their sleep. The trouble may be due to worms, to scrofulous tendencies, and to other things which require the care of a physician. In boys this form of nervous irritability, as indeed many other nervous symptoms not apparently associated with this source of irritation, may be due to a long, or a tight, or an adherent foreskin. If the bed-wetting is persistent, or if any abnormality of the parts is found or is suspected, consult the physician, who may be able to recommend some simple remedy, which will break up the tendency. Nothing is more cruel than to punish and frighten a child because of the difficulty.

Infantile convulsions.

Convulsions may occur from a day or so after birth on to the time when the first set of teeth are cut, or later.

Injuries to the head, indigestion, worms, the cutting of teeth, sudden fright, etc., are the causes. Babies under one year generally show the following premonitory symptoms: they sleep with the eyes half open, the limbs and muscles of the face twitch, the hands are clenched; the child then suddenly becomes generally convulsed, the muscles of the back especially being affected. There are many other symptoms, but they are not all necessarily present. The fit may come on suddenly with a child of any age, sleeping or waking. It generally lasts but a few moments, and yields to treatment. Send for the physician, but do not wait for his coming before doing the following things:

The child's clothes should be unloosened, and a search made for pins,—*that* may be the sole cause of disturbance; meanwhile, a warm bath may be prepared. Care should be taken that the child does not hurt its head. If the hands are curled up, nothing is to be gained by opening the palm,—disturb the child as little as possible, and not infrequently it will have dropped off quietly to sleep before the bath is ready. Let the temperature of the bath be tested by putting in your elbow, and let the water be as warm as you can comfortably bear. If tested by a thermometer, it should mark 100° Fahrenheit. Warm water can be added, if necessary, while the child is in the bath. Let the body be placed in the bath with the head and shoulders out, and apply to the head cloths wrung out in cold water in constant succession. Five minutes is as long as the child should remain thus immersed; it will be better to repeat the bath than to continue it for

a longer time. Wrap the child in a warm blanket, and do not disturb it unnecessarily. If the convulsion does not yield, an enema of soapsuds may be given. If small worms have been seen in the discharges, the enema may precede the bath.

Should there be a succession of convulsions the case is more serious, and further directions will be given by the doctor.

To feel the pulse of a baby.

The only time to feel a baby's pulse is when the child is asleep. Keep the finger on the wrist, and if the arm moves, accompany it. No accuracy can be secured at any other time. During nursing the action of the heart is increased; and no time is more unsuitable than just after waking.

The regularity, rather than the rapidity, of a child's pulse will be the point to notice. *Respiration* must be observed at the same time; the least exertion quickens a child's breathing.

To judge whether a child is losing flesh, examine the inner surface of the thighs. With a very short illness, a day or so in diarrhœa, the flesh becomes soft and flabby; with improved health the flesh becomes natural again as rapidly.

The mother's own care necessary.

In all the preceding directions for nursing young children, it is assumed that the mother herself, or some responsible person, will observe symptoms and administer medicines. No ordinary child's nurse should be allowed any discretion as to the food, air, or clothing of a sick child; or should be trusted to measure doses and decide whether or not they shall be given.

To give an enema to a baby.

The nurse must take the baby on her lap, putting it on its left side, with the knees drawn up. The point of the tube must be oiled, and passed into the rectum about two inches, directed a little to the left. The bulb must be pressed very gently, and the child kept in the position some little time afterwards.

Besides the simple enema, it is sometimes necessary to irrigate the whole large intestine with large quantities of fluid whose composition and temperature will be ordered by the physician. For this purpose the child should be laid on its back, upon a table, with its buttocks brought to the edge and raised. A soft rubber urethral catheter is then attached to the nozzle of a fountain syringe containing the fluid to be used, and after having been lubricated is introduced about two inches into the rectum. At this point the fluid is allowed to flow from a height of three to four feet, and *while the fluid is flowing* the catheter is to be passed farther and farther into the bowel, to a depth of about ten to twelve inches. A child six months old may retain a pint or more of the fluid before it begins to escape around the catheter. About a gallon of fluid should generally be used for an irrigation. Of this, the child may retain a pint or more, which may not be discharged until some time after withdrawing the catheter.

Some of the things you are never to do to a young child.

Never pat it hard. Never trot it violently, bringing the heel down with force. Never make startling noises by way of amusing it. Never toss or jump it about. Never swing it quickly, either in a cradle or rocking-chair. Do not put your fingers in its mouth. Do not, in feeding a young child, try to make it eat by first putting the spoon

in your own mouth. Do not blow upon the food to cool it.

Never roll the towel up into hard knots, or twist it round a pin, to poke at the baby's ears or nostrils, with the idea of making them clean. Great injury is done in this way. Never try to wash farther than you can see, and always use the softest cloth. In bathing a child, never let the water run into its ears by putting its head too low in the tub. Never on any account tickle a child. In general, keep it as sweet and clean and placid as possible, and let no one kiss the child's face or hands.

CHAPTER VIII.

FEEDING THE SICK.

It is not what we eat, but what we digest, which is important. Success in the treatment of disease depends largely upon the judicious management of diet.

“Little and often” is the maxim to be followed on many occasions, but as *appetite* is in this way anticipated, and so not felt, there should be a return to the usual methods and hours, as soon as allowable. Forced repose, as in sickness, produces a sluggish circulation of the blood, and so defective oxygenation, and this leads to imperfect digestion, waste matter is not ejected, and the system becomes clogged; overfeeding, therefore, especially with animal food, is to be avoided. Where there are no orders to the contrary, allow half an hour between medicine and food; drugs act more readily on an empty stomach, as a rule. When milk is the food, remember that acids, or quinine in solution, may coagulate it if given too soon.

In bringing a meal to a sick person, have the tray and everything that it contains spotlessly clean, and the food, however little, perfectly prepared and served.

Do not spill tea into the saucer, or put more broth into the bowl than can be taken. It is better that the patient should ask for more than be discouraged by the amount he is expected to consume.

In feeding a helpless person *fasten* a napkin under the chin and cover the sheet with another napkin. Give small

mouthfuls slowly, and alternate solid food with liquid occasionally.

When lifting a patient to drink, put your arm *under the pillow*, never under the head only. Before a meal give the patient water to rinse the mouth. It is impossible to swallow with a dry, feverish mouth. After the meal the hands and mouth should be washed. A convalescent will take, as a rule, the three regular meals. Let the hearty one come in the middle of the day, and open the windows before it, freshening the air completely. See that the bedding is smooth, and the pillows fresh, and the bed-rest in place. The diet should be directed by the physician. If he orders

Light diet

it may include milk in any form, eggs, broth of chicken, mutton, or clams, fish boiled or broiled, cereals with cream, the same made into simple puddings with eggs, a baked potato, baked apples, toast or stale bread, and, if allowed, tea or coffee in less quantity than is usual in health. Sweetbreads, stewed slowly till tender and with a milk sauce, are nourishing and digestible.

Hot water is always a safe drink. Cool water may be as a rule freely taken. Ice water should be avoided.

Milk diet

Many persons cannot take milk; as an exclusive diet it may easily be pushed too far,—it has a tendency to form in lumps in the stomach and is not digested. Where it can be taken cool give it *slowly* and a little at a time frequently.

Various ways of preparing milk.

It may be given hot, *not boiled*, and sometimes a little salt is acceptable.

With *lime water*, two tablespoons to a tumbler.

With the *white of eggs* well shaken in the milk, three to a quart.

As rennet custard, a large dessertspoonful of liquid rennet to a pint of milk slightly warmed; flavor with vanilla or rose; cool it, eat with cream.

As whey.—Twice the quantity of rennet poured into a pint of milk just as it rises in boiling; let it stand over the fire till the curd forms; do not stir; strain through cheese-cloth and serve cool with or without sugar.

As wine whey, the same made in the same way, but with a glass of sherry instead of rennet.

As eggnog.—The yolk of an egg thoroughly beaten with a glass of sherry or without it; milk added to nearly fill the tumbler; sugar as desired. The white of the egg beaten to a stiff froth and stirred in.

As egg milk.—Glass of milk and a beaten egg stirred in. Salt or sugar as liked, or nutmeg. If the taste of milk is disliked burned sugar will help to disguise it, or a couple of teaspoons of black coffee can be added.

As milk punch.—Half a pint of milk with a teaspoon of sugar; add last an ounce of brandy, or sherry if brandy is too strong.

As gruel.—A pint of milk boiling hot; mix a tablespoon of flour into a paste with cold water; add it and boil all till thick; thin with boiled milk.

Boiled flour and milk.—Half a pint of flour tied in a square of muslin; bring the four corners together and wrap twine round them; boil six or eight hours; when perfectly hard, grate two tablespoons of powder and thicken a pint of milk with it by boiling. Either of these flour preparations is nourishing and safe in cases of diarrhoea, the last especially.

Peptonized milk.—To be made fresh as needed, one

pint milk cold, one peptonizing powder, which is composed of five grains of extract of pancreas and fifteen grains bicarbonate soda. The powder can be bought all ready. Shake the ingredients well together. It can be slightly warmed by standing the bottle in warm water ten minutes.

Koumiss.—Have ready a sterilized bottle such as is used for ginger-beer with a metal fastening over the cork; put into it a pint of milk, one-sixth of a cake of Fleischmann's yeast, and half a tablespoon of sugar syrup; shake it thoroughly and let it stand in a refrigerator for a day or two; then lay it on its side; it is ready for use; keep it tightly corked.

Sugar syrup is made by pouring a tablespoon of water over two of sugar and boiling it for two or three minutes. A supply for a day can be made and bottled at one time.

Milk shake.—White of one egg, one ounce of cream, tablespoon of pounded hygeia ice, tablespoon of sugar; shake all well together, covering the tumbler with a larger one; add cold milk and flavor with nutmeg or vanilla, or sherry if permitted.

Boiled milk is useful when there is diarrhœa. It may be given hot or cold.

Pasteurised milk.—Fill a bottle nearly full; plug it with sterile cotton; stand it on a cloth in the bottom of a kettle; fill the kettle with warm water, and bring it up to 155°; keep it so for twenty minutes; take the bottle out and splash it with cool water; stand it in the water and when cooled put it on the ice. This is considered more digestible than

Sterilized milk, which is treated in this same way, but brought to a temperature of 212°; sterilize the bottles before filling with milk.

For babies.

Milk is first modified according to the physician's directions and then pasteurized, or sterilized, as ordered, and given to the child at a temperature of 95°-98°.

The quantity needed for twenty-four hours can be prepared in ten bottles in a large kettle, arranged not to touch each other and crack (a wad of cotton tied to each will prevent this). Stop them firmly with sterile cotton and let the water cover them. Keep in a cool place.

Barley water for babies.

Two tablespoons pearl barley soaked in half a pint of cold water four hours; strain off the water; add to the barley a quart of fresh water and boil two hours; strain through a cloth and keep the liquid cool.

Very feeble children, who do not assimilate their food, are sometimes brought into better condition by feeding with barley water, or whey, for awhile.

Oatmeal gruel for babies.

One teacup of meal; two quarts of boiling water, salted; cook it two and a half hours; strain through a sieve; when cool add to one gill one gill of cream, a teaspoon of sugar, and one pint of boiling water; stir it till smooth.

Gruels

are made of the various cereals; the point being that they should be thoroughly cooked, salted a little as they cook, and that they should be entirely free from lumps.

Cooling drinks for adults.

Nothing takes the place of a long drink of cold water, but there are various additions that can be made to it, if

desired, that are harmless and refreshing; dissolve in it tamarinds, currant jelly, currant shrub, raspberry vinegar, etc.; use grape juice and cracked ice with or without water; lemonade, orangeade, and wine, if that is prescribed, clear and cooled, or with water, sugar and nutmeg added. *Albumen water* is frequently prescribed. To a tumbler of cold water add the whites of two eggs, stir, but do not beat it; add salt or sugar as desired.

Iced tea, if permitted, is refreshing, and iced café au lait.

Beef tea.

This is not food, but simply a useful and mild stimulant. The following preparations may all be given hot if preferred, *except* No. 2. By using them cold a clever nurse can give the daily ration of beef tea without exciting suspicion or disgust. A delirious patient will more readily take the cold preparations:

1. The juice of a pound of beef may be extracted by cooking in a bottle in the usual way, and to this juice may be added one wineglass of sherry, sugar, lemon-juice, cinnamon, and one quarter box of Coxe's gelatine, or just enough to set the jelly. Serve in little forms. Made in this way it cannot be told from the nicest wine jelly.

2. Chop finely a pound of beef; put in a china bowl; add one and a half pints of cold water in which you have put eight drops of muriatic acid and a pinch of salt. After an hour drain off the fluid without pressure, add half a pint cold water poured over the beef, strain it all, and use as a drink very cold. It cannot be kept long in warm weather and must never be put in a tin.

3. Make beef tea in the ordinary way: a pound of chopped beef to a pint of cold water, cooked *very slowly*

until the beef is hard. Strain off the juice, which should be a clear liquid-like water, have it frozen, and give it to the patient in little lumps like cracked ice.

4. Take the beef juice, as in No. 3, add a tumbler of boiled milk, slightly and evenly thickened with flour, flavor with bits of celery or celery-seeds, which are to be taken out before serving, add salt, and call it white celery soup. This may be given hot.

5. Strain the beef tea carefully, and keep ice round it, and just as it is taken put a small piece of ice in it. A patient will often drink freely of this when hot beef tea would be rejected. Do not call it beef tea in this case, but broth or drink.

6. Chop fine a pound of lean beef, put it in a wide-mouthed jar, stand it in a saucepan of water, and *boil slowly* until the juice of the meat is extracted; skim and strain if greasy, and give cold or hot with claret wine added if allowed.

7. Slightly broil a pound of lean beef. The steak from the haunch or "round" is best. Cut it into strips and squeeze out the juice with a lemon-squeezer. Give it cold with a little salt and celery essence; a tablespoon of claret wine may be added. A pound of meat makes about three tablespoons of juice. This is very easily assimilated, and is much to be preferred to beef tea.

Suggestions for diet in some diseases.

In Bright's disease.—The diet should be confined to milk, bread and butter, and cereals like the so-called "health foods." Oatmeal is best. Give no stimulants, but plenty of water. The doctor will give permission if a more generous diet is allowed.

Gout and rheumatism call for a diet as simple as possible: no beef in any form; little mutton; give fish, poul-

try, eggs in moderation (whites had better be omitted), fruit like oranges, lemons, and grape fruit; green vegetables simply cooked, cereals, milk, cream, tea and coffee in moderation; no tomatoes, rhubarb, or strawberries; no pastry; saccharin should take the place of sugar.

Where there is impaired digestion, as in ordinary dyspepsia, the food can not be too simple in its nature or preparation. Fried articles of every sort, and salted meats or fish are to be avoided; mutton, poultry, fresh fish, vegetables, stale bread, rice, farinaceous articles, baked apples, and oranges and grapes are proper to use.

In cases of ulcer of the stomach, gastric catarrh, or vomiting, the food must tax the digestive powers as little as possible. Boiled milk, milk whey, milk and one-third lime water, would probably be retained if given in small quantities at any one time, and repeated at an hour's interval. Isinglass, arrowroot, ground rice and cracker dust may be added to the milk. It is often better to shorten the interval between meals rather than to increase the quantity of food taken at one time.

In febrile, eruptive febrile and acute inflammatory conditions, the diet should be confined to foods requiring very little activity on the part of the stomach. Milk and all its preparations, mutton and chicken broth, beef tea, rice, gruels, and sometimes eggs, are suitable food. Solid animal food is to be avoided.

In dysentery and diarrhœa, rice water, rice gruel made with the ground flour and milk, arrowroot made with milk, milk and lime water, barley water, and gradually other farinaceous foods, except oatmeal or cornmeal, may be used. Hot drinks, as a rule, are to be avoided, and broth, unless made of mutton and thickened with rice. The lining membrane of the bowel is inflamed and relaxed, and only bland and astringent food can be used.

In diabetes, there is a disorder of some of the processes of nutrition resulting in the formation of large amounts of sugar in the system. The diet must be free from sugar and starchy substances. All kinds of game, poultry and meat (except liver), eggs, soups (without rice or barley or carrots), green vegetables (in distinction from potatoes and the ordinary winter ones) ; cheese and sour fruit may be used. Wheat bread, milk and the ordinary farinaceous foods are to be avoided. Saccharin may be used.

Diphtheria needs concentrated liquid food at short intervals.

Surgical cases need a generous diet of whatever is not ordinarily harmful to the patient. If light diet is ordered, the various preparations of milk, with broth, and later sweetbreads stewed, fish and tripe may be used. Among animal foods, mutton is the most easily digested. When there are suppurative wounds, the waste must be supplied by nourishing food.

In debility from any disease, from age, or in childhood, nourishing food should be given in moderate quantity at short intervals, from two to four hours. The very sick often require concentrated food in very small bulk once an hour. Under these conditions milk taken hot is particularly useful ; when solids are repugnant and digestion feeble, it may be given freely and relied upon to sustain life for a long time.

Violent exercise should never be taken either just before or just after eating.

Cheerfulness is one of the greatest helps to digestion, and no solemnizing news should ever be brought to an invalid just before a meal.

No heavy meal should be taken late in the evening ; it requires about four hours for an ordinary meal to digest. In sleep there is a diminished activity of all the animal

functions, and heavy eating at bedtime promotes indigestion.

No one, however, should go to bed hungry. Invalids should always have given to them at bedtime a little hot milk or gruel; this will often prevent a sleepless night.

CHAPTER IX.

DISINFECTANTS AND DISINFECTING.

For disinfecting *discharges from the bowels, bladder, and vomited matter*, use when there is plumbing the following: Carbolic acid solution 1 to 10. That is, one ounce of acid to nine ounces of water.

Mix the disinfectant thoroughly with the discharge, using enough to entirely cover it; let it stand for two hours; then empty and wash daily with the same solution the water-closet seat and pan.

Bedpans and urinals should always have standing in them from a pint to half a pint of the solution. When urine is needed for analysis omit this.

Bichloride of mercury, which is frequently used as a disinfectant, is injurious to plumbing.

When country privies are used, discharges before being thrown in must be covered with bichloride of mercury 1 to 500, which is equal to two tablets of seven and a half grains in one pint of water, and left standing two hours. Chloride of lime *free from dampness* should also be used by the shovelful in the privies and about all overflow from cesspools, sinks, and other carelessly-kept places.

Earth-closets are sometimes the only provision in country boarding-houses. In such a case use a *separate covered* pail for the patient, and disinfect in the same way, using half as much again of the bichloride. If possible the discharges should be burned in the open air. The pail must be burned when done with.

In all contagious or communicable diseases the disinfection of discharges should begin at once, and be continued till the temperature has been normal for ten days, and convalescence is assured.

In communicable diseases *all bed and body linen*, towels, etc., when soiled, soak in carbolic acid solution 1 to 20. That is, in the proportion of one pint to a gallon and three pints of water. Such articles should soak twelve hours, being stirred occasionally, after which they should be boiled two hours. The nurse in handling soiled clothing of this kind, or in giving baths in communicable diseases, should wear gloves whenever possible, and clean her hands thoroughly afterwards with green soap under hot running water and disinfect them.

Summary of precautions to be observed in caring for communicable diseases.

General information.—In smallpox, chicken-pox, scarlet fever, measles, German measles and erysipelas the *scabs and scales* are infectious.

In diphtheria, scarlet fever, measles, whooping cough, tuberculosis, typhoid and typhus fever and pneumonia, the *sputum* is infectious.

In typhoid fever, Asiatic cholera and dysentery, the *discharges from the bowels, urine and vomited matter* are infectious.

Remember—A *mild* form of any of these diseases may give rise to a *severe* form in another person; “scarlatina” and “scarlet rash” are the same as scarlet fever.

Duration of quarantine.—Smallpox, chicken-pox, scarlet fever, measles, German measles and erysipelas until every scab or scale has fallen off. Diphtheria until throat and nose are free from the germs of the disease as determined by bacteriological examination. Typhoid, typhus

and yellow fever and cholera until ten days after termination of fever.

During quarantine period.—The sick room should be isolated (if possible at top of house), sunny, freely ventilated and maintained at an equable temperature.

All unnecessary furniture, curtains, hangings, or draperies should be removed.

Dishes, cups, glasses, trays, eating utensils, etc., should be immersed in 1 to 10 carbolic acid solution and boiled. Remains of food should be burned.

All cloths used in discharges from nose, throat, eyes, or ears (especially in diphtheria and tuberculosis) should be covered with corrosive sublimate solution 1 to 1000, or carbolic acid 1 to 10, and allowed to stand one hour before being emptied; they are better burned.

After quarantine period.—Burn all toys, books, or valueless articles used by patient. The patient is sponged off with an efficient but non-irritant antiseptic solution. Receives soap and warm water bath and a shampoo. Again washes and shampoos with antiseptic solution; ears and finger nails being carefully cleansed. Gargles with antiseptic solution and dresses in clean clothes.

After arranging room for disinfection by sealing all apertures and crevices, the nurse and all exposed persons should take a disinfecting bath and shampoo and use antiseptic gargle. Instructions for fumigation and disinfection of apartments should be obtained from the health authorities.

Disinfecting a room—Rules of the New Haven Board of Health.

Open all the windows, the closets and wardrobe doors, and pull out all the bureau drawers. Spread about the mattresses, pillows and bedding, and articles of clothing

that cannot be destroyed. Burn toys and picture books. Let in the air freely. Then close the windows and seal all the cracks about them and about the doors of exit, except one, with strips of paper put on with flour paste. Stop also the chimney and keyholes. Now take into the room a bottle of *formalin*, about three pints for a room 18x18, and lay upon the floor a sheet doubled once, pour over it quickly and evenly some of the fluid and double the sheet again, and pour on more formalin, double again, and use more of it, and so rapidly repeat the sprinkling all over the folded sheet until it is entirely folded upon itself and uniformly wet. By this repeated folding the evaporating surface is reduced, the fluid is not wasted and the operator is not overcome by the fumes; but he or she must work as rapidly as possible, and a second person should assist in the quick folding.

Now having a sheet thoroughly wet, stretch it quickly over a line previously fastened up ready for use, and leave the room, sealing the cracks of the door on the outside. The next day the room may be opened and everything wiped off with a four per cent. solution of carbolic acid. A very large room, in an institution for example, should have several sheets so prepared by several operators.

Disinfectants for instruments.

Rectal thermometers, and other glass instruments, disinfect with bichloride solution 1 to 1000. That is, one tablet of seven and a half grains to one pint of water.

Metal instruments, disinfect with carbolic acid solution 1 to 40. That is, one ounce of acid and enough hot water to make two and a half pints, used after instruments are boiled.

Ivory or *bone* handles are not to be boiled. After

scrubbing, disinfect them in the carbolic acid solution cooled.

Sterilizing Gloves.

Boil the gloves five minutes in water, wipe off with bichloride solution 1 to 1000, dry and fold them in a sterile towel. Or, steam them in a sterilizer forty minutes, laying cotton between them and folding them loosely in a towel. They are to be washed over with the bichloride solution, 1 to 1000, and afterwards dried and dusted with talcum powder, which must be wiped off with alcohol before using.

Sterilizing the hands.

Surgeons have various ideas as to the best methods; three which are commonly in use are given, and are to be, either of them, employed after the thorough scrubbing already enjoined, pages 170, 175:

1. Soak the hands and wrists, and the forearms, if preparing for an operation, for three minutes in bichloride of mercury 1 to 1000; that is, one tablet of seven and a half grains to one pint of hot water.

2. *The Ahlfeld method.*—Rub the hands five minutes with ninety-five per cent. alcohol on a flannel and wrap them in the flannel till ready for work.

3. *The permanganate method.*—Immerse the hands and forearms in 1 to 1000 bichloride of mercury two minutes, then in saturated solution permanganate of potash, until stained brown; then in saturated solution of oxalic acid till stain is removed; then in sterile water, or sterile lime water.

Antiseptics for wounds.

Bichloride of mercury (corrosive sublimate) is an antiseptic in common use.

For external wounds away from mucous membrane or the eyes, it can be used of the strength of 1 to 1000; that is, seven and a half grains to a pint of water.

About the eyes and mucous membrane, of the strength of 1 to 5000; that is, one part of the one in one thousand solution and four parts of water; or 1 to 10,000; that is, one part of the one in one thousand solution and nine parts of water.

As a wet dressing to be applied continuously, or for irrigation in abdominal wounds, never stronger than 1 to 2000; that is, a tablet of seven and a half grains to one quart of water.

If carbolic acid solution is used instead of the bichloride under similar circumstances, it should be of the strength of 1 to 80; that is, one ounce to five pints of water up to 1 to 120; that is, one ounce to seven and a half pints of water.

Carbolic acid dissolves slowly; hot water should be used. See that no crystals or drops are left undissolved at the bottom of the vessel.

No nurse has to determine the strength of the disinfectant; that is the surgeon's affair. In hospitals these solutions are furnished from the dispensary.

In private practice *tablets* are used, put up in various strengths, to be dissolved in hot water. They must be filtered through cotton, and no smallest grain remain in the solution; poisoning, especially in the use of bichloride of mercury, is not unknown. The nurse must ask for directions and know *in writing* how many tablets to use to the given amount of hot water.

Caution.—Great care must be taken that these tablets (and all other poisons) are kept out of the way of irresponsible persons and the children of the family. Tablets may easily be mistaken for harmless lozenges.

SOLUTIONS.

Carbolic acid solution in quantity.—Ninety-five per cent. carbolic solution can be bought ready. Six and three-quarter ounces of this to a gallon of water will give a five per cent. solution. It must be thoroughly stirred and filtered through cotton in a glass funnel and diluted as ordered with sterile water; keep it corked.

Lysol solution.—Three drachms of lysol to one quart of water make a one per cent. solution.

Salt solution for wash or douche is made in the proportion of one drachm to each pint of water. Sterilize the salt by baking in clean glass vials in the oven for two hours; dissolve thoroughly in boiling water in a sterile bottle; keep it corked, or put the salt into the water and boil all together and strain.

Boric acid solution can only be made of a four per cent. strength. As a saturated solution, put a quarter of a cupful into a tumbler of boiling water and then into a sterile bottle and shake well. If it is all dissolved add more acid until the crystals will not dissolve. Strain slowly and carefully through gauze into another bottle and cork it for use. In quantity the proportions are about two handfuls to a gallon of boiling water.

Formalin solution for douches, thirty drops of formalin, fresh, to a pint of sterile water. Shake well.

Sterile water is simply water that has boiled. In private families the teakettle gives a ready supply. It should never stand uncovered; keep it, if needed in quantity, in a gallon bottle corked; throw out any remaining in the bottle before filling up again.

Formulae for antiseptic solutions used in the Illinois Training-school for Nurses, revised and corrected by Professor Walter S. Haines, Professor of Chemistry,

Rush Medical College.—These formulæ are not absolutely accurate, but sufficiently so for practical purposes.*

Bichloride of mercury (corrosive sublimate; mercuric chloride).

Bichloride of mercury solution (1 to 500).

Bichloride of mercury, two drachms (by weight); common salt (sodium chloride), ten drachms; cold sterile water, one gallon.

Dissolve the salt and corrosive sublimate in about half a pint of water; filter this into sufficient water to make the gallon. Bichloride of mercury is very heavy and requires thorough mixing. This solution may also be made without salt.

Metric formula: bichloride of mercury, eight grammes; cold sterile water, four litres.

Solutions of compounds of mercury must never be used on steel instruments or other metallic substances.

To make 1 to 1000 solution, take one part 1 to 500 solution and one part water.

To make 1 to 2000 solution, take one part 1 to 500 solution and three parts water.

To make 1 to 5000 solution, take one part 1 to 500 solution and nine parts water.

Carbolic acid (phenic acid; phenol; phenyl alcohol).—An inflammable crystalline substance which partially melts on exposure to moist air.

Ninety-five per cent. carbolic acid.

To three fluidrachms of hot water add enough melted crystals to make eight fluidounces. Mix thoroughly until clear, and filter if necessary.

* Quoted from the *American Journal of Nursing*.

Metric formula: hot water, ten cubic centimetres; enough melted crystals to make two hundred cubic centimetres.

Five per cent. carbolic acid in solution (1 to 20).

Cold sterile water, one gallon; ninety-five per cent. carbolic acid, seven fluidounces.

Shake thoroughly and frequently until all globules are dissolved.

Metric formula: cold sterile water, four litres; carbolic acid, ninety-five per cent., two hundred and ten cubic centimetres.

To make two and one-half per cent. take one part five per cent. and one part water.

To make two per cent. take two parts five per cent. and three parts water.

To make one per cent. take one part five per cent. and four parts water.

Four per cent. carbolic acid solution.

Cold sterile water, one gallon; ninety-five per cent. carbolic acid, five fluidounces.

This solution is often erroneously called and used as a five per cent. solution. For all practical purposes it is, however, preferable to five per cent.

To make two per cent. take one part four per cent. and one part water.

To make one per cent. take one part four per cent. and three parts water.

Boric acid.

Boracic acid.—A saturated solution (sat. sol. or s. s.) contains about four per cent. boric acid. It is best made by putting an excess of the crystals on a filter and pouring the quantity of boiling or very hot water over them slowly until dissolved. Boric acid crystals

are very light, the measured quantity being far short of the required quantity by weight. Hot water dissolves more than cold, the excess being precipitated as crystals when the solution cools.

Stock salt solution is kept for the purpose of making normal salt solution quickly and accurately.

Sodium chloride, one and a half ounces (by weight); water, eight fluidounces.

Boil in a closed vessel fifteen minutes. When cold make up with sterile water to eight fluidounces. Strain through sterile cotton into a sterile bottle and keep tightly corked.

Metric formula: salt, sixty grammes; water, two hundred cubic centimetres.

Normal Salt Solution should contain ninety grains salt in one quart.

Metric formula: six grammes to one litre.

Take one fluidounce of stock salt solution to make one quart normal salt solution.

Take twenty cubic centimetres metric stock solution to make one litre normal salt solution.

The stock solution should be added to the necessary amount of sterile water of the required temperature and mixed well.

Formaldehyde is a gas. Commercially it comes to us in solution, formalin, containing about forty per cent. of the gas. It also comes as a solid, known as paraform or paraformaldehyde, used only for fumigation with a specially designed lamp.

One per cent. formaldehyde solution (1 to 100).

Formalin, six and a half fluidrachms; cold sterile water to one quart.

Metric formula: formalin, twenty-five cubic centimetres; cold sterile water to one litre.

One per cent. formalin solution.

Formalin, two and a half fluidrachms; cold sterile water to one quart.

Metric formula: formalin, ten cubic centimetres; cold sterile water to one litre.

1 to 1000 formaldehyde solution.

Formalin, thirty-eight minims; cold sterile water to one quart.

Metric formula: formalin, 2.5 cubic centimetres; cold sterile water to one litre.

1 to 1000 formalin solution.

Formalin, fifteen minims; cold sterile water to one quart.

Metric formula: formalin, one cubic centimetre; cold sterile water to one litre.

These solutions must always be prepared with cold water, because the gas is given off when heated.

Crenosol.—A thick dark-brown preparation from coal-tar; turns bluish-white on the addition of water. It can be used full strength, but must be applied after the preliminary scrubbing with soap and water and when the skin is perfectly dry. Rub in well; leave on for one and one-half to two minutes; then wash off with cold sterile water. There is danger of burning if left on too long or if not thoroughly washed off. For hand solutions, douches, etc., one per cent. and two per cent. solutions (1 to 100 and 1 to 50) are used.

Two per cent. crenosol solution.

Crenosol, five fluidrachms; sterile water to one quart.

Metric formula: crenosol, twenty cubic centimetres; sterile water to one litre.

Lysol.—A reddish-brown preparation from coal-tar, used for douches and hand solutions in strengths of one per cent. and two per cent.

Two per cent. lysol solution.

Lysol, five fluidrachms; sterile water to one quart.

Metric formula: lysol, twenty cubic centimetres; sterile water to one litre.

One per cent. creolin solution.

Creolin (kreosol).—A dark-brown, oily product of coal-tar which makes a dirty, milky solution with water. It is used in strengths varying from one-half per cent. to two per cent.

Creolin, two and a half fluidrachms; sterile water to one quart.

Metric formula: creolin, ten cubic centimetres; sterile water to one litre.

It should be freshly made.

Potassium permanganate is used in solution of royal blue or purple color. It should be freshly made. Fold in a piece of sterile gauze a few crystals and suspend in sterile water of the desired quantity and temperature until the right color is obtained.

Iodine solution is made by adding to sterile water of the required temperature sufficient tincture of iodine to make the color of sherry wine.

All solutions kept on hand constantly must be changed three times a week.

PART II

DIRECTIONS FOR MONTHLY
NURSING

CHAPTER I.

THE ROOM AND NURSE.

THE directions here given are for nurses, not midwives, but they cannot be put in practice by any beginner. They are intended to supplement instruction in anatomy and physiology, such as training schools for nurses usually furnish.

Preparation of the room—The Nurse.

The nurse having been engaged for the care of a confinement case in a private family, should shortly before the appointed time call upon the mother and acquaint herself with the arrangements made; where the outfit for mother and child is to be found; whether everything that will be needed in the way of appliances is at hand; where household linen is kept, and whether the room to be used is in good sanitary condition. If, for example, there has been a recent case of illness among the other children, such as measles or other eruptive fever, the mother's room will certainly have been contaminated, and should not be used unless it has been disinfected according to the rules of the Board of Health. (Chapter IX.) In case the room does not need this thorough disinfection, it should be cleaned in anticipation of the confinement, as for any surgical case, and the appliances as for such a case should be on hand. (See Surgical Nursing, Part I, Chapter VI.) In addition to this, if the attending physician does not supply his own obstetric outfit, the

nurse must find out from him what she is to have on hand and procure it.

If basins, bedpans, and jars, already in the house, are to be used, they must very shortly before they are needed be *boiled* in the wash-boiler for half an hour, washing soda having been dissolved in the water. Sponge off afterwards with an antiseptic. Gauze cut into the proper length and width, and free from ravelled threads, bobbins, towels, etc., can also be boiled in a clean vessel, and so sterilized. Or such material can be wrapped in very stout porous paper and laid on a wire tray such as is used in dish-washing, and baked in the oven at the right temperature for bread. Articles sterilized should be wrapped in a sterile sheet and put carefully aside, ready for immediate use.

The nurse must see that there are on hand pails, or tubs for cold water, into which, after the baby's birth, all the soiled sheets and towels can be thrown. Such things are never under any circumstances to be soaked in the set tubs, or in the bathroom tubs.

When a nurse is prohibited from attending a lying-in case.

A nurse is never to go to a confinement case from a case of erysipelas, typhoid, puerperal, or eruptive fever, diphtheria, tuberculosis, or any surgical case beyond simple fracture.

When obliged to break an engagement with a patient for any of the above reasons, she must communicate with her by message or note, and have no personal interview.

After nursing any of the above diseases, the nurse must not make an engagement for monthly nursing without first seeing the physician in charge, and learning from him whether she is free from the danger of carrying disease to his patient.

No article of dress, no catheter, syringe, scissors, clinical thermometer, or work-bag, etc., used while in care of either of the above diseases, must be brought into the lying-in room without disinfection by boiling.

The nurse's dress, etc.

The nurse must prepare herself as for any surgical case, by a bath; washing the hair; wearing a close-fitting cap; disinfecting her hands; and by a perfectly fresh dress, apron, and handkerchief.

The monthly nurse and the family.

The advent of the monthly nurse is often the signal for quarrels among servants, and consequent discomfort for the household. A nurse has this matter in her own control; if from the first she is disposed to make concessions, and to take little inconveniences pleasantly she will ease things for herself and others, and bring her services into demand elsewhere.

Washing.—The sudden increase of clothing to be washed is one of the grievances in the household. The nurse must avoid any extravagance in this way, either for her patients, or herself, should her washing be done in the house.

The contents of the baby's soiled napkins must be emptied into the water closet and the napkins thrown by the nurse into a jar or pail, and covered with water, which must be emptied into the closet and renewed, and carried to the laundry in this way.

The nurse must expect to fetch and carry for the mother and child as much as she can without leaving them too much alone.

Meals.—The mother's meals must be carried to her, and the dishes taken away again, by the nurse, who is also

expected to prepare any article of diet needing special care. The nurse's own meals she will go to when one of the family can relieve her from her patient's room.

Sleep and exercise must both be taken as is most convenient to the family. The nurse's bed will probably be in the mother's room or adjoining it, and she will need to be up and down during the night. She must train herself to sleep lightly and without snoring. Out-door exercise she will probably have a chance to take for an hour, once or more a week, after the first ten days, at any rate; but should there be no one in the family who can long be trusted with the mother and child, the nurse must in such cases adapt herself to her surroundings, and take her fresh air in another room by an open window or in the yard. This can be done daily.

The nurse in general must be cheerful and kind with every one,—not too professional, not standing on her own dignity; willing to lend a helping hand when she can, even if it is not “her place” to do such and such things. No woman, however superior she may be, will ever lessen her dignity by such kindly concessions.

The nurse having been called to the patient in labor must have at hand ready for immediate use all the utensils she has previously disinfected, including a basin for hand solution, and one in which pledgets are ready in an antiseptic solution; also the bobbin and scissors in the same in a shallow saucer; sterilized douche-pan and douche-bag, and two dozen sterilized towels at least, with fresh soap, and two new hand brushes for the doctor's use.

She should also have procured or prepared two obstetric pads of thick layers of cotton wadding, covered with sterile gauze and tacked here and there, and large enough for the patient to lie on; and several dozen menstrual

pads, which can be bought ready for use, or made of gauze, cut and folded in the proper size. There should be four breast- and abdominal-binders and T-bandages; also the baby's outfit and bath tub, thermometer and scales. The solutions ordered the nurse will, of course, have ready for use,—and boric acid and pledgets for the baby's eyes. Oil and vaseline are included. All these things should be ready for use and placed on separate stands, so that there may be no confusion at the last moment. An obstetric case is a surgical case, and all the regulations as to surgical cleanliness must be put in practice by the nurse.

If the patient is to be delivered in bed, in addition to the preparation of the bed for long occupation, with draw-sheet, etc., put over it all a large rubber covering, and another sheet, and an obstetric pad in the middle, to be used under the buttocks. After delivery this outer rubber and other articles will be removed, leaving the patient on a clean bed.

The bedstead may be protected by covering with paper and sterile sheets, and the carpet about the bed in the same way.

There should be ready several fresh sterile sheets and pillow cases, and two or three light blankets, which are better than one which is heavy, and a change of clothing for the patient.

The mattress should be even, and if there are depressions they must have placed under them firm hair cushions if possible, or whatever will make an even and not too yielding surface. Should an absolutely firm one be suddenly needed, as in operations, the leaves of an extension table, or slats from some bed, can be pushed under the mattress.

When a special bed can be provided for delivery, a

simple cot, like the one in the accompanying illustration, is all that is required. It is arranged with a "Kelly pad," which is an india-rubber ring and cloth attached, and round which clean towels should be tucked. After the child's birth the mother can be lifted to a fresh bed; this is very desirable, but not essential. If a Kelly pad is used it will require very careful cleansing and disinfecting afterwards.



Arrangement of bed, table, and chair for normal labor, with Kelly pad.



Arrangement of sheets for vaginal examination.

CHAPTER II.

CARE OF THE MOTHER.

During the first stage.

The nurse must give a soap and water enema, and the bladder must be emptied once in four hours, naturally if possible, or if not, by the catheter. The hair about the vulva and perineum must be cut close. *After this* the patient should stand in an empty bath-tub with the stopper out, and be given a thorough bath in running water, from the pipe and sprinkler, while a rough cloth and green soap are used to make a lather.

The position must be changed from time to time so that all parts of the body, especially from the hips to the knees, may receive careful attention. The navel should be cleaned with a soft swab over a probe. After douching with warm water the bichloride solution, 1 to 1500, should be sponged over the body, and genitals especially, and the patient dried quickly and a sterilized undervest and gown be put on.

No washing water or solution must enter the vagina.

From this moment only vessels which have been sterilized must be used, never the water-closet.

To prepare for external examination.

The patient is placed on her back and a sheet covers the body below the hips and a second small one the chest and shoulders, allowing the abdomen only to be exposed.

For internal examination.

The patient is placed on the back with the knees separated and flexed and limbs wrapped in crib sheets, while another sheet covers the abdomen and face. The vulva is washed in a disinfectant and a wad of cotton wet with the same left between the labia. After the examination this washing is repeated, and a sterile pad placed over the parts. If the Sims position is ordered, see page 278.

Walking about.

During this first stage the patient may move about as much as she pleases and take light nourishment. Cans of hot and cold water should now be at hand in preparation for the progress of the case. Cold water must have been boiled and cooled.

During the second stage.

The patient lies on her back and has a sheet firmly fastened at the foot of the bed to pull against; or she lies on her side with a pillow between the knees. The position is determined by the physician. The night-gown is folded back and protected by a large sterile towel securely fastened; and the patient's limbs wrapped each in a small crib sheet. When the bag of waters breaks, the doctor generally examines again.

The nurse's duty is to watch the doctor and anticipate his wants and to encourage the patient, and if there is cramp in the legs to stretch and rub them, bending the foot and toes towards the knees. Pains in the back are relieved by brisk rubbing and hot-water bags.

Careful watch must be kept for discharges from the bowels during the efforts made, and immediate cleansing given, the parts being bathed with a disinfectant. Soft



Beginning of second stage of labor. Patient bracing against chair and pulling on sheet at the height of a pain.

napkins or wads of absorbent cotton should be kept under the buttocks.

Anæsthetics.

The nurse is seldom required to administer the anæsthetic, but if it is necessary, see directions in the chapter on SURGICAL NURSING, pages 177-179. If chloroform is used, rub a little vaseline on the patient's face to protect it from possible burning. The physician will probably have his Esmarch outfit for giving the anæsthetic. If not, cover the patient's eyes, and put ten to fifteen drops of chloroform on a handkerchief, which is held an inch or two from the mouth so that air can mix with it. The nurse must watch the physician for orders and the patient for symptoms, and keep one hand free for taking the pulse at the facial artery under the jaw. All the responsibility rests with the physician, who will give the anæsthetic himself if possible.

When the head is born.

The nurse must immediately wipe off the child's face everywhere with dry gauze, rubbing away from its eyes, and wash the eyes with pledgets of cotton squeezed in warm boric acid solution, and wipe dry with gauze.

The mouth and throat must also be wiped out with gauze wrapped round the little finger and dipped in the solution and passed far back in the throat. Without this care the child might draw mucus into the lungs with the first inspiration. The nostrils also must be freed.

As soon as the child is born it is wrapped in a warm towel and laid on its right side at right angle to and facing the mother, and the physician ties and cuts the cord. *When the baby is removed from the bed* it must be rolled in a blanket and laid in its crib or some *safe* place on its side with the head lower than the chest so

that any mucus may pass out of the mouth. A sterile dressing should be laid over the cord, which must be watched for bleeding following contraction.

If the baby does not cry it may be spanked on the buttocks or held up by the heels, as in the illustration (care being taken not to pull upon the cord), and slapped between the shoulders four or five times with the hand, or the end of a towel may be dipped in ice-water and used to slap with.

If further treatment is necessary it will be given by the physician and will probably follow some such rule as this: The child being placed on its back and the tongue drawn forward, raise both the arms over the head, and bring them down again, doubling the elbows over the chest and pressing them on it; repeating the motion eighteen times a minute, evenly.

Contraction of the uterus.

If it is the nurse's place to make pressure over the uterus to promote contraction she must notice whether it remains hard; if it seems soft and relaxed she must say so at once; she may be ordered to give massage, without lifting her hand, firmly, with a sort of grasp of the part, till contraction takes place.

The separation of the placenta comes now and is indicated by firm contraction of the uterus, and advancement of the cord from the vulva. The cord is dropped into a sterile basin, and the after-birth follows. The physician will be present and will by inspection assure himself that all parts of the placenta and membranes have been expelled. The nurse must bring the basin to him and be sure that the examination has been made before he leaves the room.

Retention of any part is extremely dangerous. Per-



Infant suspended by heels. Nurse slapping its back immediately after birth to excite respiratory movements. Umbilical cord clearly shown.

mission having been received from the physician, they may be rolled in paper and buried or burned.

The bed is now put in order.

All soiled articles are removed from it. The draw-sheet is changed, a clean obstetric pad is put under the patient, and the bedpan placed under the vulva, while the parts are gently bathed in sterile water and with the disinfectant ordered, and a pad of absorbent cotton is placed over the vulva. A clean night-gown may be needed and upper sheet and pillow-case. Give the patient a fresh handkerchief, and bathe her face and hands. Cologne water or lavender water may be refreshing.

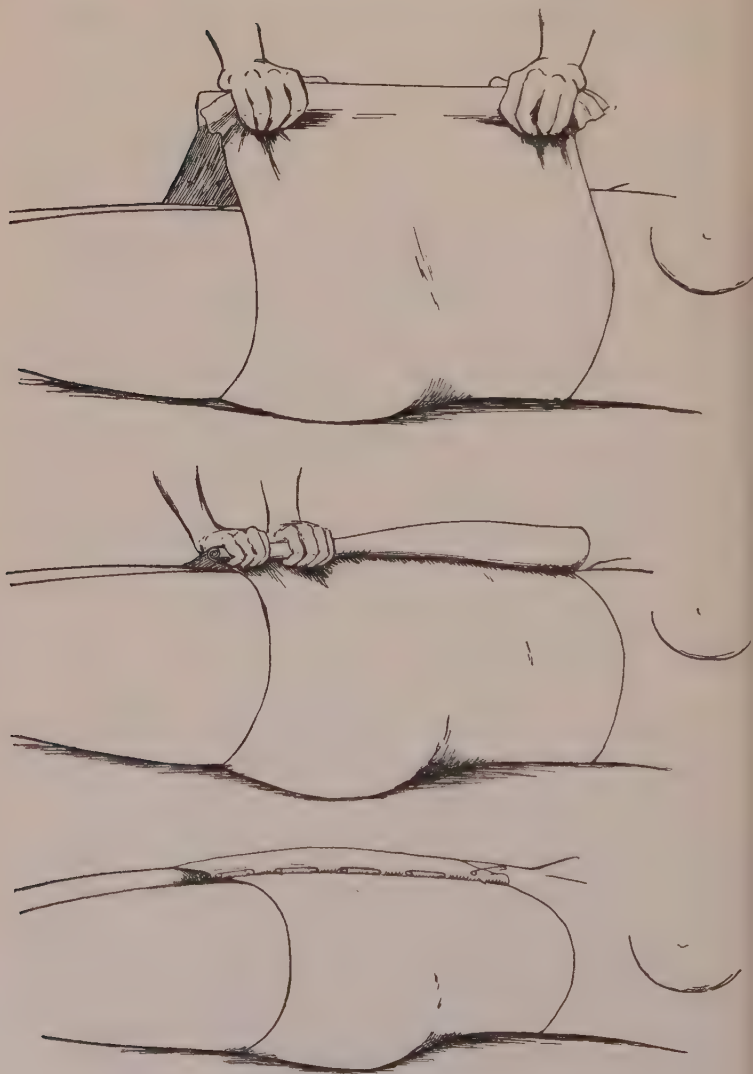
Swabs, pads, etc., are to be rolled in paper and burned; and sheets and towels put to soak in cold water; those most soiled by themselves.

Change the water frequently and rinse thoroughly before they are sent to the laundry. Blood-stains cannot be removed from linen unless it is thoroughly rinsed in cold water before being boiled.

After-care of the mother.

Should there be no laceration, the patient rests for awhile. The binder is now pinned firmly over the abdomen, the fastening beginning at the top. A pad is sometimes put over the fundus uteri to make pressure. In lifting or moving the patient, keep the legs as tightly together as possible to prevent air from entering the vagina, and keep the hand on the uterus.

The binders are made of unbleached cotton cloth which should have been freed from selvages, and washed and ironed. They need not be hemmed, as the doubled edge sometimes presses painfully upon the skin. They should be sixteen to eighteen inches wide and a yard and a



Abdominal binder.

quarter long. They should be changed and washed frequently.

When applying one, press it under the patient as you would a draw-sheet in changing, removing the soiled one at the same time, draw the two ends up and fasten quickly. Have the pressure even.

The nurse must examine the clothing and bedpan to see whether there is bleeding, and she must estimate the quantity lost in this way. She must watch the color and expression of the patient's face and the pulse.

The patient is now kept as quiet as possible. She may have light nourishment. The pulse should be somewhat slower than usual. The temperature should be taken. The air of the room must be kept pure, either by lowering a window or airing through the next room in which a window is open. Keep the patient from draughts. Do not have too heavy bed-clothing. See that the extremities are warm.

After-pains are due to the contraction of the uterus after the birth. They are increased by the first nursings of the baby. They are very painful, but show that the patient is in a good condition, and they generally subside in forty-eight hours. Warm drinks, and warm flannels over the uterus may possibly be a comfort.

Once in four hours the patient is placed on a bedpan and the vulva is washed by pouring over it lysol solution 1 per cent. or bichloride solution 1:2000, and a fresh pad is applied attached to a T-bandage. This cleansing is to be repeated after the patient defecates or urinates. *Before each* cleansing the nurse is to disinfect her hands.

The lochial discharge is at first bloody and later mixed with serum, gradually becoming watery. If there is foul odor about it report to the doctor. Always be extremely careful in bathing the parts as *disease germs* from

the discharge may infect the fingers and be carried to the breast and eyes of mother or child. Never handle anything after changing dressings until the hands have been scrubbed and disinfected. The mother's hands should be carefully cleansed, before she handles the baby when feeding; they may have come in contact with soiled dressings. After the lochial discharge lessens, bathing and changing dressings four times in twenty-four hours is enough.

Obstetric operations.

If it becomes evident to the physician that an operation is necessary the nurse must have brought to the room the firm table already described under SURGICAL NURSING, page 189, and make the preparations there provided for so far as the nature of the case requires.

The patient will be very restless, and the nurse must see that no chill is felt from exposure. A warm bath may be promptly needed for the child. The crib must be kept warm with hot bottles wrapped carefully and removed before the child is put in, and then laid *outside* the blankets near the baby. The duties of the nurse will be to watch the operator and hand him promptly what he requires, using forceps to hand dressings and touching nothing that she can avoid.

If there has been laceration, and stitches have been taken, special care is needed in bathing and changing dressings and adjusting bedpan and urinal, that there shall be no disturbance of knots or ends of sutures. Should there be swelling round the stitches and pain at any time notify the doctor. If scales and coagulated secretions form, sterile albolin or some other application should be made, and the impurity wiped off when softened. When soap and warm water are used, see that

the soap is fresh-cut Castile and the water sterilized. Large covered cans of water that has been boiled should be kept near the room and refilled daily for bathing the patient. All the essentials of a careful toilet must be observed daily.

Care of the breasts.

When the mother has been given a chance to sleep for four, six, or eight hours, the nurse bathes the breasts, and sponges them with the solution ordered. She pours boric acid solution over pledgets of sterilized cotton, and washes the nipples, never touching them with the hands. A breast binder is applied.

The child is put to nurse within the first six hours, lying not on the mother's arm or on the pillow, but close up to the mother on the mattress, and a sterile napkin should be tucked under its chin.

The child should nurse every two hours after the milk comes during the day, and every four hours at night. If the baby will sleep at night, do not wake it to nurse. The nipples must be cleansed after nursing with boric acid solution, and the child's mouth carefully washed out with water that has been boiled and cooled.

Simple swelling of the breasts may come on when the milk first shows itself. There is a mottled look and a feeling of over-distention. Do not rub the breasts unless ordered to. If massage is ordered it is to be very gently given, over an oiled surface, and with disinfected hands, in circular movements from the nipple outwards. The doctor will order the treatment. If to express the milk, it may be given in circular motions gently from the outside towards the nipple.

Cracks and fissures of the nipple should be seen promptly and treated as the physician prescribes. If

nursing shields are used they are to be scoured and boiled or disinfected and washed off with sterile water before and after each nursing.

Inflammation of the breasts.

The symptoms are pain and swelling in the parts. There may be a chill and feverishness. The doctor is always to be promptly called; meantime, the child is not to nurse, and the breasts must be firmly supported by a bandage. Hot or cold applications will be ordered and probably some medication of the mother. Lessen the liquids taken.

If there is excess of milk, lessen the liquids. Keep the clothing dry by pads frequently changed, and use constantly a snug binder.

Quality of the milk.

If it is too rich or too poor the condition of the child will quickly show it. Sometimes there is an abundant flow but without the needed nourishing properties. Take the child's temperature after eating, it should rise a trifle; examine the inner sides of the thighs, it is there that a falling off in flesh shows itself. The baby should be frequently weighed.

Analysis of the mother's milk.

If the child eats ravenously and still does not gain in weight, it is clearly not doing well. There is something wrong, probably, with the mother's milk; it should be analyzed. Not less than two ounces should be drawn into a bottle by the breast-pump, the pump and bottle having previously been boiled. Do not take the first milk; throw that out, and take the next two ounces. Cork tight for the laboratory.

The patient's bowels should be evacuated once daily; if artificially produced the nurse must receive explicit directions.

The bladder must be emptied within eight hours after delivery and about four times in twenty-four hours later. The catheter is not to be used without the doctor's order. Try simple remedies; hot fomentations over the bladder, which may be gently pressed; the sound of water running in the bath-room, or an enema sometimes will remove the trouble. It may come from nervousness simply. Do not watch the patient; having placed the urinal or bedpan leave her alone for awhile.

Food.

Liquids (water) may be given freely and promptly after delivery. Two or three hours later, tea or milk, plain, or with lime water, or seltzer, bouillon, etc. There may be disturbance from the anæsthetic. This must determine the time and sort of food.

After the bowels are moving freely, ordinary light diet is allowed, with tea, which should be weaker than when in health. Towards the end of the first week small pieces of chicken or very tender steak are allowed, with fresh vegetables.

No fried food and no acids are to be taken, and if the baby's digestion is disturbed the mother's diet may need correction. Plenty of water is always allowed, even if other liquids are restricted, and it is needed for its effect on the bowels and kidneys.

CHAPTER III.

SOME COMPLICATIONS OF CHILD-BIRTH.

Post-partum hemorrhage.

THE loss of two or three ounces of blood after child-birth is of small importance if the uterus is firm and if the bleeding does not recur; but if the nurse finds the uterus relaxing and enlarging and there are pallor, colorless lips, and cold extremities, feeble pulse and respiration, and dizziness, with continued bleeding, or with sudden flow of blood, the doctor must be recalled at once. Meantime, the nurse should put the hand firmly over the uterus and give circular movements with the fingers spread. She may give half a drachm of fluid extract of ergot, and raise the foot of the bed high on some firm table or chair; or, if it is too heavy for that, raise the mattress so that the pelvis is considerably raised. If this fails she must pack the vagina tight with anything *sterile* at hand,—cotton, gauze, handkerchief, etc., tying them together,—and while holding this in place with one fist, use the other to press the uterus down as firmly as possible. The patient may have strong black coffee.

It is important that the patient should see the nearest physician if her own has gone to a distance, as might happen in country practice.

A sudden rise of temperature or a chill may mean the retention of a clot or parts of the placenta, and may come even after the operation for laceration.

Immediate attention of a physician is required.

In anticipation of a hemorrhage, the nurse should have

on hand a jar of sterile gauze, cut in strips half a yard wide and twelve yards long, folded back and forth so that they may be easily paid out from the jar, and free from all unravelled threads. This is used in packing the uterus. The cover of the jar must fit snugly and be tightly fastened. To secure *further sterilization* of "sterile" surgical gauze, bake the jar, filled as above, for two hours in the kitchen oven, and repeat the process on the following day.

The *profuse bleeding* has greatly weakened the patient, and the nurse must prevent her from moving about in bed and using up her strength. The patient must make *no exertion*. The bed must remain raised at the foot, and lowered only a very little each day till it is in position again. Liquids in abundance may be given, and milk, eggs, meat-juice, etc. The doctor will order the diet, if necessary. No rough rubbing is allowed, and the daily sponging is to be given with gentleness and without rubbing.

Puerperal infection.

When the genital tract is infected by impurities, however introduced, a septic fever follows. Carelessness on the part of the nurse, the physician, or some person having access to the sick-room, is probably chargeable with the conveyance of the poison.

The symptoms are such as accompany any febrile attack—chill, rise of temperature, sleeplessness, local pains about the uterus, etc. The treatment, so far as the nurse is concerned, is to save the strength by preventing exertion of any kind, to keep the body cleansed of foul perspiration by a tepid sponge bath daily, and to use hot-water bags to prevent chilly feelings. Food in small quantities, frequently, will probably be ordered.

Perspiration not too profuse will help in getting rid of the poison, and it should be followed by gentle rubbing with a little alcohol in warm water. The nurse must call attention to any constipation, and the patient should urinate about once in four hours. As the case progresses, the feeding should be such as is called for in other fevers—liquids at first and then light diet, with no solids until permitted by the doctor. Good ventilation and complete rest are essential.

Protect the child from infection.

Nursing is generally discontinued and artificial feeding as ordered by the physician substituted.

In bathing no risk must be taken of infection of the cord or eyes. The nurse must thoroughly disinfect herself before passing from the sick-room to the nursery. The baby should be kept away from the mother.

The patient's hands must not touch the dressings or the parts covered by them; or any crack or fissure of the nipples. It would be safer to use a disinfectant for the mother's hands. All soiled dressings should be rolled in paper and burned.

The nurse's care of herself.

The hands should now, as throughout the lying-in period, be sterilized before and after applying dressings, and there should be no cracks or hang-nails. Keep the nails cut short, and wear rubber gloves whenever possible.

The nurse must not touch her own eyes or lips (which may be cracked) while caring for her patient. She must have as much fresh air and sleep as possible without neglecting the patient, taking it when there seems a lull, and

a member of the family can be trusted to watch in the sick-room.

Eclampsia, or sudden convulsion.

This may come on before, during, or after delivery, with no warning, or there may be premonitory *symptoms*, which the nurse must report at once, such as constant dull headache and an uncomfortable feeling behind the eyes, dimness or indistinctness of vision, flashes of light before the eyes, puffiness about the eyelids and face, swelling of the hands, feet, and legs, severe pains in upper part of stomach, vomiting, singing in the ears, and twitching of the muscles of the face, hands, and calves of legs. The urine is usually scanty and highly colored, although cases are on record where large quantities of urine were passed and convulsions were present.

If the patient has a convulsion, first roll up a handkerchief tightly, and put it between the teeth, as the tongue may be seriously bitten. *The convulsion* may be preceded by a few seconds of unconsciousness, followed by a spasmodic contraction of the muscles of the face; the mouth is drawn to one side, the eyeballs roll upward, and the eyelids open and shut in rapid succession; the head is turned rapidly from side to side, and there is spasm of the muscles of the legs, arms, and chest, followed by one in which respiration stops and the whole body becomes blue. The doctor must be notified at once and the patient put to bed if not already there. Keep her absolutely quiet, and, if possible for her to swallow, give her all the water or milk you can get her to take; keep her warm—perspiring, if possible—until the doctor comes, who will order any further treatment. If the convulsion has occurred before delivery, he may think it proper to bring about premature labor. Have everything ready.

Puerperal mania symptoms.

Sleeplessness, delusions, indifference to the baby, etc. When the nurse suspects any of these things she must at once report it to the doctor. Suicide, or violence to the child may follow.

The window of the room must be fastened, air being admitted only through an inch or two at the top and bottom. If strong, fly-screens are used: they must be nailed securely to the window-sash and the sash nailed. The patient must never be left alone even when seeming asleep—women are very apt to feign sleep at this time to throw the nurse off her guard. If she is obliged to leave the room, some attendant who can be summoned by a bell must first be on hand. Nothing with which the patient can injure herself must be left in the room. Do not bring knives with the meals; do not leave scissors lying about.

The baby should be separated from the mother, and bottle-fed if possible; if it must nurse the mother, she is to be watched every moment.

Sleep must be secured in some way; the physician will have this in charge.

Food will have to be made very attractive, and all the nurse's ingenuity will be needed to prepare it and persuade the patient to eat it.

The stomach-tube may have to be used. For this and for rectal feeding, see Part I., Chapter V. Do not contradict the patient, and do not be untruthful with the idea of quieting her. She will find out, and lose all confidence in you. It is important that the patient should trust her attendants.

CHAPTER IV.

THE BABY.

AFTER the child has been removed from the bed and the mother has been bathed and made comfortable, then come the *first bathing and dressing of the baby*.

Everything must be in readiness before beginning, including a glass of olive oil, one of boric acid, sterile swabs for eyes, sterile gauze for cord dressing, white Castile soap, scales for weighing the baby, a clinical thermometer, soft cloth or gauze for wash-cloth, some old linen, a small bath-tub with water at 100° F., a bath thermometer, and a pitcher with hot water. The clothing is also arranged so that no time is to be lost; the skirt is put inside the dress, and the shirt, band, and folded napkin made ready. The baby is examined first for blemishes or abnormalities, then the temperature taken by rectum, and the baby is put on the scales and weighed. The eyes and mouth are washed with swabs of cotton soaked in boric acid solution, care being taken to use a separate swab for each eye and washing from the inner towards the outer surface. The face around the eyes, nose, and mouth is then washed with the warm water, no soap being used. Next the head and entire body are rubbed well with the olive-oil, care being taken to get it well into the wrinkles and any place where the greasy substance which at first covers the skin is lodged, especially around the vulva in girl babies. A lather is then made on the nurse's hands with the Castile soap and water and the entire surface well rubbed with it. The combination of the oil

and soap-suds with the *vernix caseosa* forms an emulsion which is easily washed off. The child is then taken on the left arm of the nurse, her left hand grasping tightly the left arm of the child and right hand supporting the buttocks, and lowered into the bath-tub; if the water has grown cool during this process, hot water as needed to keep up 100° F. is added from the pitcher. The nurse holding the child supported on her left arm washes it with her right hand. On her lap is spread a warm towel; the baby is lifted from the bath and wrapped at once in the towel and sopped dry, as the skin is very delicate and will not bear rubbing. This is the only tub bath given until the cord drops off; a daily lap bath being substituted until that time.

Dressing the cord and finishing the toilet.

The cord and the surface all about it are washed with one per cent. lysol solution, and a pad of sterile gauze is placed over it and held in place by the binder, applied not too tightly; it is only to keep the dressing from slipping. It should be sewed on. The baby's shirt comes next, and then the napkins, which should have a soft piece of linen inside to catch the first discharges which make a stain. This linen should be burned when changed. Slip sleeves inside sleeves, and finish the dressing with as little turning as possible.

For the lap bath, which is given till the cord falls off, the nurse disinfects her hands and has everything ready. She should wear a flannel apron or have a small blanket over her knees, and a warm towel. The child's eyes are first washed as directed. The nurse must then sponge the head and face with warm water, and rub the body gently with oil and wipe off with a warm towel. If the skin chafes, dust, after the oil, with powder. Clear the



Tub bath for a nervous child.

nostrils of any mucus and wash the mouth, using soft old linen.

The navel.

Do not change the gauze dressing unless it is soiled or stiff; in that case soak it off with one per cent. lysol solution, and apply the dry gauze again, and finish the dressing.

The fretting of babies is sometimes caused by discomfort about the cord; examine and see whether the little wound needs attention; it should heal healthily like any other wound. Touch it only with sterilized cotton; and report any appearance of inflammation about the navel. After the cord drops off, the navel is dressed with powder and gauze. When the surface is in good condition the band should be discarded.

The first tub bath is given when the cord drops off. If the child is nervous or excitable a towel may be laid across the top of the tub, covering it entirely, and the baby held over the towel and then lowered very slowly and carefully into the water, which must be kept at a temperature of 98° to 100° F.

If there is no need for this precaution, the water being at the right temperature, the baby's shoulders are carefully supported by the nurse's left hand, and her right grasps the legs under the knees. She supports the baby in the water and then uses the right hand to wash it with a soft cloth and Castile soap, and having a warm flannel on her lap, receives it again, quickly covers it with a warm towel, and completes the toilet.

The baby's eyes.

No fluid must enter the eyes during the oiling or bathing. It is a separate duty to care for them *before the bath*.

Every morning they are to be bathed with the warm solution ordered by the physician. If no order has been given, use a saturated solution of boric acid, and apply with a bit of sterile gauze, a fresh piece for each eye. Do not return the gauze to the solution; let a little of the fluid run between the lids from a medicine dropper. Never touch the eyes with the fingers. In ordinary cases washing once a day will answer, but if the lids seem gummy the eyes must be attended to several times in the twenty-four hours.

Inflammation of the mucous membrane of the eyes.

This is a germ disease and very alarming. Constant and entire devotion on the part of the nurse is the only thing that can save the child from blindness. The disease is contracted as the child passes through the vagina or because of careless handling by the physician or nurse in the first few hours, or from some infected article, or even by the mother's touch.

Symptoms.—The lids grow red and swollen and there is an irritating discharge which runs from the closed eyes. The doctor should be at once notified; *do not wait until his next visit*. If only one eye seems involved, cover the other with sterile gauze fastened on with adhesive plaster strips. Put on the baby's slip without using the sleeves, to keep the hands from the face. Soak bits of gauze in the saturated solution of boric acid, and lay them over the eye, using forceps for the purpose and a fresh piece of gauze for each application. Change them each minute.

Run a stream of the boric acid between the lids to remove every appearance of pus; use the medicine-dropper for this, never the gauze squeezed in your fingers. Move the eyelids softly up and down and sidewise to bring out

pus from inside, wipe it at once with a sterile pad, which must be burned. Do not use it twice. Keep up this treatment, even while the child is feeding, until the doctor comes, and then, whatever his order is, carry it out as faithfully as you would for your own child, realizing that only by your care can lifelong blindness be averted. A second careful attendant should be secured to carry out instructions while the nurse rests. For ice treatment see Chapter V. The baby must be kept warm with hot bottles, if necessary, while the ice-cold pledgets are used.

The nurse's care of herself.

Do not hold your face too close to the child. Do not touch your own eyes while caring for such a case. Be careful that no infected solution and no gauze used touches you or your dress. Completely disinfect all forceps and utensils in use. If a continuous stream is ordered from a bottle or douche-bag, see that they are surgically clean, using gloves for all such cleansing. And in applying, roll the child in a blanket, holding it firmly on your knees.

The baby's bowels.

After the first few days the meconium, which is a dark green substance found in the large intestine of the foetus, should have been passed. If it does not disappear in a day or two castor oil will be prescribed in the required dose, which the nurse should give from a medicine-dropper which she dips in warm water that the oil may flow freely. The mother's diet may need regulating. Constipation in the child is sometimes relieved by gentle abdominal massage and by suppositories of glycerin or soap, and by a slight change of the mother's diet.

If urination is not free, or if uric acid shows itself in red stains on the napkins, the doctor must be told. The child should have warm water to drink in teaspoonful doses frequently; it is useful for the bowels also. Persistent failure to urinate may mean stoppage of the passage, and the doctor may have to operate. The nurse will have sterile forceps, scissors, swabs, and a disinfectant ready, and will hold the child firmly on its back with the knees flexed for the operation.

The baby's breasts.

There is sometimes noticed swelling and hardness. They may contain milk. Do not rub roughly. Apply camphorated oil, cover with a soft handkerchief or cotton, kept in place with a breast-binder *sewed on*. Never use safety pins for any binder about the baby; they are too hard and bruise or pain the soft flesh.

Feeding the baby.

As a rule, the food is to be given once in two hours, but one feeding may be omitted at night if mother and child are sleeping.

Before and after feeding, the nipples and the child's mouth are to be washed. After feeding put the child at once to bed.

It should, during the first month of its life, never lie upon its back, but upon one side and the other alternately; this is to prevent the milk, which is apt to regurgitate, from filling the mouth or finding its way into the larynx and producing suffocation.

Always put a soft folded napkin under the child's chin when nursing to catch any moisture. Lay the baby close to the mother flat on the mattress, not on her arm or on a pillow.

Under what conditions the mother should not nurse her child.

Two conditions which disenable a mother to nurse her child are lack of proper milk secretion, and serious constitutional disease or ill health, although there may be an abundance of milk; in either of these a healthy wet-nurse should be secured from the first, or the child be brought up by hand.

There are three other conditions which force the mother to abandon nursing,—viz.: renewed pregnancy, acute disease, and sometimes the recurrence of menstruation. When one or other of these conditions arises, the mother must decide whether her child shall obtain its further nourishment from a *wet-nurse* or *artificial food*.

A good wet-nurse in all cases is preferable to artificial food. The mother's health must be maintained all through the nursing period by daily sponge baths, fresh air, good food, as quiet a mind as possible, and no over-fatigue.

Too long-continued suckling.

A woman's health is very frequently broken down by nursing her child. The age of the child must not be allowed to determine this question; many mothers are unequal to the drain on the system from the first, or beyond a very few months, while others go on without injury for nine or ten months or longer.

Symptoms of too long suckling.

The earliest symptoms for the mother are a dragging sensation at the back when the child is in the act of nursing, and an exhausted and sinking feeling at the pit of the stomach afterwards. Then come loss of appetite, costiveness, pain on the left side, dizziness, depression

of spirits, palpitation of the heart, profuse perspiration, and weakness of the retina. These symptoms, if unchecked by promptly stopping the nursing of the child and an effort to build up the system, often result in temporary insanity.

It is easy to understand from this how criminal a thing it is towards mother and child when suckling is permitted beyond the evident ability of the woman.

The nurse must call the doctor's attention to any such symptoms occurring during her care of the patient. And as it may be necessary within the first month of a child's life to employ a wet-nurse, the nurse in charge of the mother should understand what is essential in the selection, and should have the wet-nurse under constant observation. She must insist on personal cleanliness and proper food, and regulate the hours for nursing the baby. She must herself cleanse the child's mouth after each feeding, and understand that she is not relieved from responsibility for entire care of the child, by the coming of the wet-nurse.

The best substitute for the mother's milk, and the possible dangers in using it.

The milk of another woman is more like the mother's than is the milk of any of the lower animals, and, excluding the danger to the child of disease by contagion or inoculation, is a safe and satisfactory nourishment. On account of the danger to the child of contracting disease from a wet-nurse, great care must be made in the selection of one.

The necessary qualifications of a good wet-nurse.

1. *Middle age.*—Wet-nurses who are too young, and are themselves growing, are not able to furnish so good

a milk as those who have attained their growth; on the other hand, women who are in the decline of life are equally unsuitable. An age between twenty and thirty years is the best.

2. *Near correspondence in the age of both children.*—It must be remembered that the milk changes its character during the months succeeding labor, as the child grows older, and that the milk of the first month, for instance, is suitable only for a child a month old; the milk of the eighth month suitable only for a child eight months old; hence do not select for an infant but a few weeks old, a wet-nurse whose labor occurred several months previously.

It is seldom that a wet-nurse can be found whose child is of exactly the same age as the one for which she is employed, but the *less disparity there is between the ages the more suitable is the milk* for the child to be wet-nursed. As a rule, eight weeks is the limit to this disparity of age.

3. *The first four or six weeks of the puerperal state must have ended.*—It is not well to select a wet-nurse whose labor is but just completed, because the milk secretion is not so perfectly established but that a change from one diet to another, from one child to another, and from her customary social relations to those that are strange to her, may check the secretion and thus cause some inflammatory trouble.

In addition to this, after the month or six weeks have passed, the permanence of the secretion can be better judged of.

Attention to this rule may prevent the necessity of changing wet-nurses, and assure to the child a sufficient supply of good nourishment.

4. *A sound constitution and health.*—The conditions,

which should prevent a mother from nursing her child, apply with equal force to a wet-nurse.

We must go even further than this. Many slight affections are not considered of sufficient moment in a mother to prevent her from nursing, while the same affections in a wet-nurse would oblige us to reject her; such as, for instance, carious teeth, or swollen and ulcerated gums, an unpleasant breath, or a disagreeable odor from some part of the body, such as the feet or axillæ, slight fissures in the nipples, or a fetid uterine discharge.

Not only must the health of the wet-nurse be good, but she must come of a healthy family as well, in order that we may be positive of no concealed constitutional disease.

Furthermore, there must be a thorough external and internal examination, in order that no hidden tumors, ulcerations, or discharges may escape notice.

5. *Phlegmatic temperament and gentle disposition.*—The nervous influence of a nursing woman upon her child is not sufficiently taken into account.

If a mother possess an irritable or excitable nervous organization, it is considered a sufficient reason for providing her child with a wet-nurse. Much less, then, should a wet-nurse of similar temperament be employed! In addition to the harmful influence of such a woman upon the child, is the further consideration that she will be unlikely to obey orders.

In short, a wet-nurse should be, in temperament, as like a healthy cow as possible, with little or no thought beyond her sleep, her food, and the satisfaction of nursing.

6. *No menstruation and no pregnancy.*—Both of these conditions diminish the quality if not the quantity of breast milk, which is sufficient reason for rejecting the wet-nurse who suffers from either of them.

If, however, in a wet-nurse who has been employed for some weeks, the menstruation makes its appearance, the patient, or other responsible person, must ask advice of the physician as to the question whether or not she must be exchanged for another.

7. *Healthy, full, and medium-sized breasts.*—The skin upon the breasts must be clear, free from every kind of eruption, not disfigured by warts or cicatrices; no nodules should be found within the breasts; the nipples must be free from fissures, and of medium length and size; the milk in the breasts must spurt out on pressure and be of good quality.

8. *A healthy, well-nourished child.*—The best test of the fitness of a wet-nurse for the duty to be assigned her is the examination of her child. A healthy, well-nourished child is the best possible recommendation, provided, as we have before said, the age of the two infants correspond; a thin, sickly child with a skin eruption outweighs all favorable qualifications.

The death of the child of the wet-nurse from disease is a strong argument against its mother, and a physician alone can decide whether she shall still be employed; but if death occur through accident or very difficult labor, the same objection does not hold.

In all cases where the *child still lives, it must be thoroughly examined*, and furthermore, it must be certain that no other has been substituted for the real child.

9. *Healthful residence.*—As a rule, wet-nurses from the country, or healthful parts of town or country, should be chosen in preference to those living in large cities.

Care must be taken of the wet-nurse.

The nurse must not only understand, but also instruct her patient in the *care* of the *wet-nurse*.

The nearer her mode of life in her new abode resembles that of her own, the greater likelihood that her milk will remain of good quality and quantity.

Hence the kinds of food and drink to which she has been accustomed must be as far as possible provided for her, except only such as are really harmful to the child; and in exercise she must be allowed the same liberty as in her own home.

Artificial feeding and nursing-bottles.

There are many so-called substitutes for mother's milk, and each physician will have his own method of artificial feeding. For sterilized milk, etc., see Part I., Chapter VIII.

Warm the food by standing the bottle in hot water. Give it at about 100° F. Never warm over again any that is left in the bottle.

Never put the bottle to the child's mouth and leave the baby; hold him on your lap and the bottle at the right angle till the meal is finished. Give it slowly, with little pauses such as a child would make in natural suckling. Watch some baby while nursing and learn how to feed by the bottle.

Never put an empty bottle to a child's mouth to keep it quiet.

The bottle should be a smooth round one of glass without rubber tube. The nipple should be passed directly over the lip of the bottle.

Cleansing bottles.

Bottles may be kept clean and pure by dissolving washing-soda in hot water, half filling the bottle and shaking well. A string of small pearl buttons kept for the purpose is useful to shake about in the bottle to aid in

keeping it clean. They must be cleansed after each use. Rinse the bottle in boiling water before putting in the food each time.

Rubber nipples for the bottles are to be boiled daily and scrubbed inside and out. Keep two, leaving one always under water that has been boiled and cooled. Black rubber nipples are best.

PREMATURE BIRTH.

A child so born requires more care than if at full term. Take all the precautions for protecting the eyes. As soon as it is free from the mother it is rolled in warm flannel and blankets, and the nurse, passing her hand under these, oils the child freely with warm albolin or whatever else is ordered, and wipes it off quickly with a warm, soft towel. She lays gauze over the cord and puts the child in the incubator under instructions from the physician. If no incubator is provided, she must have made ready a basket filled in with feather-pillows everywhere, covered with a blanket, and warmed with hot bottles which are rolled in flannel laid outside the blankets and refilled frequently. The baby is put into the basket rolled in flannel and covered, head and all, only a little crack being left for air over the face. The oiling of the baby is repeated under cover every day for a week or more. The face and buttocks may be gently sponged with warm water, and zinc powder used when there is irritation from discharges. There must be no soap and no rubbing. The eyes are washed by irrigation. All the mucous membrane needs the greatest care. The napkins are to be very loosely fastened.

In place of the blanket or ordinary clothing, *a wrap with a hood* may be made, preferably of silk chiffon,

covered on the outside with lamb's-wool wadding, tacked here and there. This is light and very warm. The hood is covered in the same way, and fastened over the head. The child is laid on the chiffon and the garment is fastened at the side, while the end is brought up over the feet. The child lies in a warm bag, and is not to be lifted from it. Its wants can be attended to under cover of the garment. The lamb's-wool must not touch the child,—even that would irritate the skin. If it is a question of expense, gauze and absorbent cotton may be used for the wrap. No change from it is allowed until the doctor permits a full bath. When this can be given, dip the child for a moment in warm water and dry without rubbing. The clothing must be quickly put on without much handling of the child. It would be well to keep it rolled in a blanket without dressing for some little time. The temperature should be taken by the rectum daily.

Feeding the baby.

The mother's milk is drawn from the breast as needed; it must be given as soon as possible, and measured by the drop,—two-thirds milk to one of warm sterile water, and five to twenty drops at a time given from a small vial with nipple. If the baby is too feeble to suck, milk must be dropped slowly far back into the mouth from a medicine-dropper; hold the child in such a way that the milk can pass down the throat easily. In more serious cases of weakness the stomach-tube is introduced. The doctor will superintend this at first.

Little disorders.

There are various infantile troubles which, as a rule, need not appear if the nurse is intelligent and faithful.

Thrush appears in the form of white spots on the tip of the tongue and inner side of the lips, and so spreads to the back of the mouth and throat; the white spot is a sort of fungus, believed to be formed from decomposition of the milk remaining in the mouth, which any careful nurse would have washed out after each nursing. Having appeared, the spots are to be washed gently by means of a camel's-hair pencil, once an hour, in a solution of thirty grains of borax in one and a half ounces of tepid water, care being taken not to rub or break the patches. If the child's strength will allow it, it is considered best to do with as little milk as possible, to substitute barley water, or some such thing, if the doctor permits, and to avoid the use of sugar in the food.

Prickly heat, due to the stoppage of the sweat-glands, coming sometimes from want of care in bathing and changing and airing clothing. Keep the baby in light clothes; use no soap in bathing; do not rub it; sponge lightly. Zinc powder should be applied, and if the skin is broken in the creases linen should be laid over the places. Do not let the fluffy little shirt irritate the child.

Jaundice may show itself during the first week. When the attack is severe enough to turn the whites of the eyes yellow, the child needs special care; the bowels must be kept in order, and the physician may order flushing of the colon to clear them. See Part I., Chapter VII., page 213. The food for the time may need changing.

Snuffles.—Some exposure to cold or draught is the cause; report it, as it may develop into something serious.

Troubles of the digestion and colic come from rapid or irregular or over-feeding, or too much tossing about of the baby, or want of care of the mouth or the nipples, and especially of nursing-bottles if they are used. Relief is sometimes given by a warm flannel over the

abdomen, by gentle massage, or sips of warm water. Do not lay the baby on its stomach or trot it; put it over your shoulder and pat it—that may expel wind.

Spasms.—In the first few weeks a child may have spasms from various causes. As the nurse does not know the cause, she can only summon the physician and report the symptoms. There are premonitory twitchings of the limbs and muscles of the face, a staring expression of the eyes, and a stiffening of the body. Meantime, if the doctor's coming is delayed, a warm bath may be given and a cool cloth put over the head.

In applying heat of any kind at any time to the baby, the thermometer must always be used; never test a bath with the hand. A baby's flesh is extremely tender.

Hot-water bottles must never be as hot as they can be made. They must feel comfortable to the nurse's face, and always be rolled in flannel and laid outside the blanket. Put the stopper in tight and dry the bag. A burn at any time in the case of any patient from hot applications is a lasting disgrace to a nurse.

Infantile disorders may often be avoided by perfect cleanliness, *good ventilation*, regular hours for feeding, and entire repose for mother and child. Accustom the baby to out-door air as soon as possible. Never toss or trot it or make noises to excite its attention. Do not rock it to sleep. The baby-carriage in the open air is better than a crib in the nursery.

Crying babies.

When you have made sure that the napkin is dry; that no pin or wrinkle or tight band disturbs the baby; that there is no stiff edge of the little gown under its chin, from the moisture carelessly allowed at the last nursing; no fluff from the blanket tickling the nose, and that it

is not hungry, you need not mind a little crying, it is good lung exercise and will stop if not noticed. *If crying is persistent*, rub the abdomen gently or put a warm flannel over it; give a teaspoon or two of warm water, or (if nearly an hour has gone since the last feeding) give a drink of cool water. Sometimes, *when all these things fail*, take off all the child's clothes and sponge him in warm water, or put a drop or two of oil on the palm of your hand and rub him with long, slow strokes; the oil helps the hand to pass easily over the tender flesh. Do not dress the child, roll him in the blanket simply. If he falls asleep, do not wake him for the next feeding; omit it, but see that he feeds *slowly* at the next meal.

Crying that cannot be quieted, comes from pain, or some infantile complaint.

CHAPTER V.

GYNECOLOGICAL NURSING.

BEFORE an examination the rectum must be emptied and a vaginal douche given, followed by a general bath. Fresh night-clothes are put on and long stockings.

For the doctor's use at the bedside examination there should be a basin, disinfecting solution, sterile gauze, hot water, vaseline, towels, and a strong chair. Anything further he will order.

The speculum is to be boiled and rinsed and left in warm water until needed, then dried and rubbed over with vaseline. The patient's knees are flexed and the instrument introduced and held steadily in place.

If a pessary is first to be removed, it must be turned round so that in its length it corresponds with the opening.

Local dressings are to be removed with forceps, care being taken that no ravelled thread of gauze remains; examination for this must be made with the disinfected finger. The same care is necessary in removing tampons. The physician will direct what position the patient shall occupy for an examination.

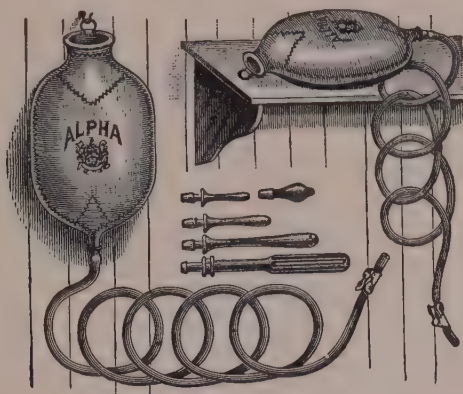
In the *dorsal position* she is flat on her back, with the knees flexed.

In the *knee-chest position* the patient rests on her knees, the chest lying flat on a pillow.

The Sims position is on the left side and chest, the left shoulder and arm behind, the head and right arm toward the right corner of the table, the buttocks towards the left, and the knees drawn up.

Whatever position is taken the patient must be saved from all unnecessary exposure; the vulva only being left uncovered. Two light blankets put on lengthwise will accomplish this. In returning the patient to the natural position care must be taken to move her gently and slowly, especially when the uterus has been packed. The nurse must have learned in her hospital training the ways of preparing tampons and various local dressings. She must know what the physician will require, and prepare them beforehand.

The nurse must disinfect her own hands. Preparations for any examination are to be thoroughly antiseptic.



Fountain syringe.

For prolonged vaginal douches a fountain syringe is used, and if given hot they are from 112° to 118° F.; from two to four quarts are required.

PART III

FAMILY HYGIENE AND
EMERGENCIES

CHAPTER I.

FAMILY HYGIENE.

A clean house.

INTELLIGENT supervision of the work of the servants from garret to cellar is the only thing which will insure a healthy house.

Cellars must be ventilated with open windows; must be perfectly dry, flagged, or cemented; must be from time to time whitewashed, the walls being first well brushed and freed from the coal-dust and ashes which are sure to collect upon them. No accumulations of rubbish must be allowed in them, and no turnips, cabbage, or other strong-smelling vegetables be left uncovered, and perhaps rotting on the floor.

Kitchens.—There should, of course, be no part of a kitchen which cannot be scrubbed, or rubbed, or whitewashed; this is generally understood; but besides this, the sink and all drain-pipes need to be flushed daily with *clean* hot water, and to have, once a month at least, a strong solution of washing soda poured down them. The washings from vegetables and meat, the greasy and decomposing particles which float down the pipes and line their surface, become sources of danger, and were it not that the constant fire in the kitchen keeps the ventilation there good, there would be many cases of illness caused by foul air from sinks.

Stationary tubs in which the clothing of the family and of the servants is washed often give out an offensive odor unless they are scrubbed out after use, and the

pipes flushed occasionally with carbolized water. The clothing is filled with impurities, which being floated off by the water, settle down along the waste-pipes, and can only be made harmless by constant and cleanly care. The best tubs are glazed terra cotta.

Stationary basins, bath-tubs, and water-closets.—What has been said about tubs is true of all these. No fixed basins should ever be near a sleeping-room.

There is no perfect system of house-drainage; and the chances of leaks and faulty traps are too many to make it safe to run any risks. Besides, were your connections with the street sewer perfect, all the excrements of the family, all the contaminated water from sinks, fixed basins, and wash-tubs, constantly leave an unclean and poisonous deposit above traps and beyond traps, thus supplying a ready source of danger. The evils can be overcome to a certain extent by the use of disinfectants, and these should be employed even where there is no bad smell. It has been frequently proved that poisonous air may escape into dwelling-houses from house-drains, and yet produce no sort of unpleasant odor.

If you are so unfortunate as to have near your sleeping-room "all the modern improvements," fill up the overflow perforations in the fixed basins with plaster of Paris, renewing it from time to time. Keep the plug always in, and use disinfectants.

Diphtheria, typhoid fever, dysentery, and other evils lie in wait at the mouth of every drain, and sooner or later will find a victim unless there is constant supervision.

Servants' quarters need constant looking after to prevent not only obvious dirt, but ill health and bad smells, which arise from want of ventilation and proper airing of bedding and mattresses.

Slop-pails such as are in ordinary use are extremely untidy without great care; they contract an offensive smell and do mischief. Vessels should be carried directly to the closet and emptied when possible, or an ordinary china jar with a cover be used for the purpose. Washing-soda dissolved in hot water and left standing in vessels and china jars for a few hours now and then will purify and cleanse them. All paper basins and pails absorb damp impurities, and can never be made properly clean.

Clean Rooms.—After the weekly sweeping, which has distributed the dust from the carpet to all uncovered articles and places, have the walls of the room wiped down with a soft cloth fastened over a broom; dust the backs of the pictures; shake the curtains; wipe the paint with a damp cloth; lift out the registers, and wipe out the dirt which has undoubtedly been swept into the mouth of the pipes.

Never have a carpet which is worth more than sunlight. Let in the sun and air freely, opening windows here and there before breakfast, and after all meals, to let out the smells of the cooking.

Ventilate sleeping-rooms.

Never allow any one to go to bed in a room which has been occupied through the day, without having the windows thrown open and the room thoroughly aired for ten minutes. If necessary, the fresh air can afterwards be made warm. Arrange that every sleeping-room in the house shall have an open window in it or near it at night. The old-fashioned tin whirligig, or a wire-gauze pane, or the window down even an inch, will answer if there is nothing better.

Always take away chimney-boards and fire-screens, and see that the flue is unobstructed; the chimney acts as a

ventilating shaft. If there is a scuttle-door or ventilator in the roof, see that it is opened every day. A sliding-sash with long cord, that can be managed from below, is best, and serves to ventilate the whole house, and should be open at night, as also bedroom doors.

The Nursery.—Air this room thoroughly before the children are put to bed. Do not allow the nurse afterwards to sit there with a light burning, stealing the air from the helpless children. Let her sit in an adjoining room, or even in the entry. Leave the nursery door open at night; a folding screen about it is all that is necessary. Should it be inexpedient to keep a window open in the nursery, it can be open in the entry or adjoining room, and give air through the door.

A separate bed for each child.

Besides securing for the nursery good ventilation through an open chimney and open window, provide, wherever it is possible, a separate bed for each child. No one thing is so injurious to the lungs as taking into them what has just been breathed out from them,—that is, carbonic acid, organic matter, and watery vapor, with but little oxygen. The blood is dependent for its healthy condition on exposure to a sufficient amount of oxygen in the lungs, and deprived of it, cannot bring to the tissues the food they require, and the tissues of the lungs being imperfectly and poisonously fed through the impure blood, develop tubercles. It is fully admitted that breathing into the lungs again the breath just given off is one of the surest and most rapid ways of destroying life by pulmonary consumption. It is easy to see how surely children put together in a poorly-ventilated room, occupying the same bed and breathing into each other's faces eight hours out of every twenty-four, poison the

air and undermine each other's health. All these objections can be urged with still greater force against the practice of allowing a child to sleep with its nurse, or any older person, when not only the breath, but the exhalations from the skin, go to make up an unhealthy condition of the atmosphere just about the child.

Bedding.—Mattresses and pillows should be regularly exposed to the air, and, if possible, to the sun daily. The offensive and injurious odor which is frequently perceived about pillows is due to imperfect preparation of the feathers; they have not been properly cleaned, and, if examined, would frequently be found to be oily, and to contain particles of organic matter and small insects and worms, living and dead. Steaming, drying, and remaking is the only remedy for the bad smell.

Blankets, being less frequently washed than other bedding, need to be hung frequently in the air and sun.

Bathing.

There is constantly exuding from the skin a large amount of fluid and solid matter; the fluid escapes into the air, and the solid, for the most part, remains upon the surface of the skin, and must be removed, for cleanliness and health.

There are upon the palm of the hand alone three thousand five hundred and twenty-eight perspiratory pores in a square inch, each of these being the opening of a little tube about a quarter of an inch long; in a square inch of skin consequently there are eight hundred and eighty-two inches of drainage. What if these drains are obstructed? Over the whole body there are twenty-eight miles of little drain-pipes, with many thousands of openings at the surface of the skin. When this beautiful provision for throwing off impurities and keeping up

healthful secretions is made useless by unclean accumulations at the mouths of all the little drains, it is obvious that the body must be kept in a debilitated and flabby condition. Bathing is the remedy for this state of things. All children should be *daily* washed.

Babies in orderly houses are bathed daily; but it is a common and injurious habit, even among clean people, to leave young children just beyond infancy to their own desires as to their personal cleanliness. A child of ten is not fit to wash himself unless he has been carefully trained daily up to that time in the proper way of taking his bath. To allow a boy as soon as he is "old enough to dress himself" to do as he pleases, results in his jumping out of bed, to which he has gone unwashed, and putting his day-shirt probably over the flannel he has worn at night, and completing his dressing before it occurs to him to wash even his face; and the same is true of girls. The fact is, that in almost all families it is taken for granted that the young people are clean, and so at the very time when they are growing tall and fast, and need every healthy influence, they are left to themselves in one of the most important matters affecting their health. *Daily bathing* is quite as necessary for a child of ten as for a baby, and it should be done by the child under instruction, with plenty of soap and brisk rubbing, to produce the full effect.

Dashing cold water over the throat and chest strengthens them, and makes the child less susceptible to the effect of damp and cold air. Such habits formed early will stay by a man with very happy results.

It need not be supposed that elaborate bathing arrangements are necessary. The child or man needs simply a basin of water, a rough wash-cloth,—not a sponge,—a rubber cloth to stand on, or bit of old carpet or blanket

with which to protect the floor, soap and towels. Let him then take off all his clothes and briskly rub himself from head to foot with soap and water, and then with the dry towel. The back can always be reached with a small wet towel thrown over the shoulders, and rubbed back and forth. This answers well when there is no plunge-bath at hand.

Clothing.

In a climate like ours children's clothing should always cover the chest. A large proportion of diseases of the lungs begin in the part just below the collar-bone, that being the weakest part of the chest.

A common blunder in children's clothing is in the *narrowness* across the chest. Across the shoulders, and perhaps round the waist, there will be room enough, but sufficient space for the rapidly developing chest is seldom or never allowed. Always make the back of the waist a snug fit, to support the shoulders, and give more room across the chest than seems to you necessary. What are known as "dart seams" should be put into the waists worn by little girls as soon as they cease to be babies.

The ability to draw a full deep breath without any obstruction from tight bands, arm-holes, and straps, is essential for the lungs, that the changes may take place in the blood which fit it for nutrition of the body. Tight and heavy clothing, pinching the ribs and dragging upon the hips, crowds and presses upon all the organs,—heart, lungs, liver, stomach,—and impedes every function of the body. Cover the body from head to foot with sufficiently warm clothing, the weight of which is taken upon the shoulders, and which does not compress any part,

High-heeled shoes and boots.—The slight pitching forward of the body, which is always unavoidable when high heels are worn, brings the whole frame a little out of line, and destroys the mechanical arrangement by which we are able to stand up straight. The weight of the body is thrown directly upon the muscles, those of the back coming in for an extra share of the abuse. Fatigue after short walks and constant pain in the back are often chargeable to high-heeled boots and slippers.

Food.

Children require food which is good and agreeable to them, but they can be taught to like that which is nourishing and suitable if they begin young enough.

Children are up early; are active during every moment of freedom, and probably walk much farther than their elders daily; they are growing; and for all these reasons they require nourishing food at shorter intervals than do their elders. When the family breakfast is late and the children are expected to wait for it, they should always have a glass of milk as soon as they are dressed. Many a child runs about an hour or two every morning without food, and comes to a late breakfast too tired to eat or so hungry that more food than can be assimilated is taken. Give a child a hearty *breakfast* always, with eggs or meat or fish, and some farinaceous article, and as much bread and butter and milk as he will take.

Dinner comes after a long morning of constant activity, or of more wearing fatigue in sitting still in an unventilated school-room. To select this time for giving a child what is called a "good lunch"—that is, chipped beef and crackers, or hash, or cake—is a mischievous mistake. Let the *chief* meal of the day be not later than two P.M., with plenty of *juicy* meat and well-cooked vegetables; it

refreshes after the morning fatigue or employment, and gives new energy for the work of the afternoon.

Supper may with propriety be simply as much bread and milk and hominy, etc., and stewed fruit as it is safe for the child to take; he will sleep better for not having a late and heavy meal; but it is evident in this case that what has been said about early morning food and the need for a nourishing breakfast is reasonable, when one reflects that from the hearty noon meal round to the late breakfast hour sixteen to eighteen hours will have been spent in which the child has had no *animal* food.

Rare and juicy meat, well-cooked vegetables, bread and butter, most of the farinaceous preparations, fruit, and simple puddings are the only kinds of food a child should have; and milk the only drink, besides all the cool water he wants. Tea and coffee, all fried food, and candy and pastry, are utterly unfit for children.

Oatmeal and cracked wheat are considered by some physicians too coarse to be easily digested by young children. Thoroughly boil them if used.

Exercise and study.

Drive young people out of the house for several hours at least, daily. If their clothing is not too fine, they will give themselves up to fun like other young animals. As they grow older some object for a walk should be furnished them every day, in an errand to do, a message to take, etc. When it is a possible thing, the whole family should form a habit of sitting out-of-doors on bright and dry days, properly protected with wraps, and the feet raised from the ground. There are many little back gardens even in crowded cities that might be utilized for the health of the family with a little ingenuity.

Studying.—No girl or boy under twelve to fifteen years

of age should be allowed to bring the school-books home to study. As, unfortunately, the requirements of most schools conflict with this obviously proper rule, parents must see to it that a child is not overtasked in this way. The number of studies may be reduced by request, and the home hours over books regulated, and no studying after school be permitted until there has been an interval of an hour or two or more in the open air at play.

Stooping over books by gas-light all the evening is muddling to the brains, an injury to the eyes, and mischievous to the general health.

Drainage and drinking water.

Whenever rural dwellings are within one hundred feet of each other, even on a level surface, there is danger that one may pollute the other's well through some privy, sink, cesspool, or stable. With a peopled hill-side there is inevitable pollution from leaking cesspools or drains farther up the slope. If, then, it is necessary to dig a cesspool, put it as far as possible from your own or your neighbor's well or cistern, and make it as *tight* as possible. Deliberately to construct it so that by leakage through the soil it may empty itself—saturating the ground and mixing its filth with water-courses which may supply a neighbor's well—is a barbarism. *Disinfect your cesspools, drains, swill-pails, refuse-cans, etc., as directed, Part I., Chapter IX.*

Examine from time to time your connections with any street-sewer and the different openings from your house-drain into the rooms, and be particular to secure the best trap for each basin or sink or tub.* See that there

* Have a pipe carried up outside the walls of the house from the main drain of the house, or the cesspool, several feet above the roof—far beyond any roof-windows—to help in carrying off into the upper air the poisonous gases.

is no damp spot about the floor or ceiling near any such place, and be sure that your cellar is dry. It is not uncommon to find that the house-drain will traverse the cellar-floor to make connection with the street-sewer outside, and leakage from the drain, either from faulty pipes or the settling of the ground, may slowly saturate your cellar-floor in some dark and unobserved place, and endanger the lives of the household.

If the house stands on damp or loose soil, or is a new house, or one that has not been "overhauled" recently, it may very likely happen that the sinking of the ground, or natural settling of the walls, will drag the pipes and drains apart at their joints; this would leave within partition-walls or under cellar-floors great gaps for the leakage of foul fluids and gases. All such pipes should be exposed to view or suspended from the cellar ceiling. Cold-air boxes, intended to supply outside fresh air to the air-chambers of furnaces, are liable to be thrown out of place, and so become sources of danger in the same way; and should there be near their opening any unclean thing, such, for instance, as a swill-pail, the air which passes through them will be contaminated, and then distributed impartially to all the rooms of the house.

Drinking-water.—Whenever you are obliged to have a cesspool, and there is a city supply of water, have this laid to your house, and abandon your wells and cisterns. Should there be no such supply, boil all drinking-water; procure the best large filter that you can, and pour all the drinking-water through it. Filtered rain-water is safer than the water of any well.

Cool, sparkling, pleasant-tasting water may be drawn from wells near privies and cesspools, the contents of which, slowly saturating the soil by leakage, are necessarily mixed with the drinking-water in the neighbor-

ing well. Outbreaks of fatal disease have been directly traced to the use of such pleasant-tasting water; and scores of people die from drinking milk mixed with such water by dishonest milkmen or put into cans washed in polluted water.

Furnaces.

Although in this climate furnaces seem a necessity, they are always a ready means of slowly undermining the health of the family by coal-gas and overheating. There is hardly any furnace made which may not, through careless turning of dampers when coal is freshly thrown on, give off into the rooms a poisonous coal-gas.

The ordinary furnace flue is also a means of conveying impure air from one room to another, and from a lower to an upper floor, when in cheaply-built houses such a flue is made to do duty for several stories with its openings one above another. Sounds are easily conveyed in this way, and bad air has even more liberty.

Fixed iron plates or pipes for direct radiation of heat do not, it is true, convey air from one part of the house to another, but they are even more objectionable than the single-flue system, for the reason that no sort of air is brought in by them, and that they cook and re-cook such air as they find in unventilated rooms—offering to the lungs the same sort of nourishment which would be conveyed to the body through meat warmed over and over indefinitely.

The best method of heating a house is the one which secures large quantities of moderate heat, has some arrangement for supplying moisture to the air, carries the warmth through *separate flues*, one for each room, with register in the walls, and is furnished with a large amount of fresh air from outside the house by a properly-guarded

fresh-air box. Having this and a temperature never above 70° F., you are not likely to be injured by your furnace.

When you are obliged to use such a heating apparatus as may be already in your house, see that the flue for smoke is tightly fitted and in good order; that cellar air is in no way introduced into your rooms; that pans of water are set to evaporate in the air-chamber of the furnace or mouths of the registers; that all the fireplaces there may be in the house are kept open, and that the windows are regularly opened to air the rooms daily.

“Malaria.”

It is not necessary to look upon serious illness as simply a visitation of Providence, or having called it “malaria,” to feel that you have gone to the bottom of the subject. Go to the bottom of your own or your neighbor’s swill-pail, or other foul receptacle for garbage and rubbish, examine your drains, or look after your cesspool and its connections, etc., and never rest until you have satisfied yourself that your own want of intelligent oversight of sanitary arrangements inside and outside your house is not to blame for the diphtheria, dysentery, or typhoid fever. If your own premises are in order, suspect your neighbor of being to blame for the evil, and try to rouse his attention to it, in country places especially.

Girls at boarding-schools.

In a few of our colleges and schools for girls the health of the pupils is carefully considered in their education, but as a general thing too much is taken for granted by instructors, who naturally give their chief attention to classes and recitations.

It is needless to say that every part of a school building

requires as constant and systematic care as to cleanliness, ventilation, and disinfecting as any private house. Indeed, such care is more necessary in the first case than in the second, for careless young people and servants will constantly save themselves trouble by hastily covering up dirt, and by throwing things into water-closets and basin-drains, which stop the pipes or make unclean accumulations, through which the impure water passes very slowly; water-closets or privies are left uncovered; soiled clothing is not disposed of; windows are never opened; in short, all sorts of little lapses combine to make great disorder and an unhealthy condition of things, unless there is eternal vigilance on the part of the head of the school, not of the housekeeper simply.

The *ventilation of recitation-rooms* will require the attention of the instructors who in turn are in charge of classes. No class should succeed another until the windows of the room have been thrown open for five minutes and the air renewed, and some of them should be down at the top always.

Girls as a general thing are ignorant of the laws of life and reckless of their own health. Mothers of families hesitate to give their daughters information which their advancing womanhood will thrust upon them; and many a delicate young girl is sent away from her home without the knowledge concerning her own physical nature, which might save her from life-long weakness. The only remedy for such an unfortunate state of things is, that the experienced women under whose instruction and control such girls are placed should take into account their ignorance, and the value to them of certain hygienic laws, and should give them rules to live by in their daily care of their bodily health. Such rules will answer for the younger classes in a boarding-school, but no young

woman should be allowed to leave the school without having had, in addition to these, careful instruction in all that relates to her own physical nature and special functions. The ordinary school physiologies are of necessity written for both sexes, and are useless in this matter. There should be in girls' schools a course of instruction specially applicable to women, and supplementary to the advanced studies in physiology.

Such a course might with great propriety also give the future heads of households careful training in hygiene and sanitary laws, and what constitutes a healthy house and neighborhood.

The effect of such instruction upon the next generation would be marked and happy. As a commencement of such a drill for schools a few suggestions are given applicable to girls of all ages, and it would be a wise thing to have something of the kind printed and hung in every bedroom of the school.

It is taken for granted that each girl will be allowed a separate bed, and that when two or more occupy the same room a folding-screen, a suitable number of basins and slop-jars and foot-tubs, and plenty of water in pitchers and cans, will be provided.

Sanitary rules for boarding-schools.

1. On rising in the morning turn the bedclothing back over the foot of the bed; pull off the sheets and hang them by the window; put the pillows where they will have the air when you leave the room. Do this whether you are to make the bed or not.

Always leave the window down an inch or more at the top. Open your wardrobe or closet-door wide when airing the room in the morning; push up all the windows, and open the shutters.

2. No piece of furniture is allowed against the fireplace, and no chimney-board or screen.

3. Bathe yourself *daily* from head to foot with a rough cloth and soap and water, pulling the screen about the washstand. Once a week at least you are required to take a plunge-bath.

You will not be excused from bathing except in case of illness, or at the request of a physician, and at a certain time in the month when it is proper to take precautions. Report to the lady principal (or proper officer) at such a time. You are then to be excused from walking for a few days, your lessons will be diminished if necessary, and you are to avoid either a hot or a cold foot-bath, and confine yourself simply to sponging in tepid water. The feet are to be protected from damp or cold sidewalks by thick warm shoes, and the clothing is to be warm enough to prevent a chilly feeling. Should there be monthly excess or irregularity, or any indisposition at any time, it must be reported at once to the proper officer.

4. If there is a stationary basin, put in the plug, half fill it with water, throw a towel over it, and leave it so *at all times* when not in use; the "overflow" must be stopped with plaster of Paris.

5. Brush your teeth over the slop-jar, and never over the stationary basin. Never empty the foot-tub or jar or vessel into the stationary basin, and report any servant whom you find attempting anything of the kind.

6. Put all litter, scraps of paper, orange-peel, apple-cores, bunches of hair, etc., *in the scrap-basket*. Nothing of the kind must on any account be thrown into the slop-jars, tubs, or vessels.

7. Never allow any chamber-vessel containing liquid to remain uncovered in the room day or night at any time; never make use of one if the water-closet is at hand.

8. Change all your underclothing not less than twice weekly; never wear during the day any under-garment in which you sleep. Leave your night-dress in the air on taking it off. It is to be kept hanging in the closet, and not folded under the pillow.

9. If there is a leak in the gas, or a bad smell anywhere about the room, report it at once to the principal.

10. Before going to bed throw the window wide open, and leave the room for ten minutes, closing it afterwards, except for an inch or two at the top with the window farthest from the bed. This is to be left down at night. When weather permits, have windows wide open.

11. Separate your clothes one piece from another on taking them off at night, so that they may be aired. Never throw them in a heap together.

12. You are required to have a calico bag in which to keep your soiled clothing, and to send articles needing washing promptly to the laundry.

13. In reading or studying, *never face* a bright light from window or gas-burner. A candle near by is better than two gas-burners at a distance. Turn your back to the light, and sit so that it shall fall on your book. Do not stoop over your book, allowing it to rest on your lap. Sit up straight, and hold it up before you.

14. You are strongly advised not to wear tight corsets or dresses; to take the weight of your skirts on your shoulders, rather than on your hips, by suspenders or waists, with buttons round the band corresponding with buttonholes in the bands of your skirts; to avoid high-heeled slippers or boots; to wear clothing that protects your chest; flannels next your skin in winter, and thick boots for walking. Do not be childish enough to spoil your digestion with large quantities of candy and other sweet things.

CHAPTER II.

EMERGENCIES.

Drowning.

ON first rescuing a person from the water turn the face downwards for a moment, and have some one pass the finger into the mouth and hold down the tongue, so that the small quantity of water and mucus which collects across the windpipe may escape. If a shelter is near, carry the body to it as quickly as possible; if not, don't attempt it. Lay the body down with the head, neck, and shoulders raised a little; take off the wet clothes from the chest and feet at least, and begin at once to make the attempt to restore the respiration artificially. Kneel behind the body; take hold of the arms just above the elbows, draw them away from the sides and up over the head until the hands meet, counting one, two; lower them again, bending the elbows, and bringing them up over the pit of the stomach with pressure, counting three, four. Continue this, making the whole movement sixteen times a minute, and do not stop for two hours. Meantime, some one must be holding the patient's tongue out between the teeth, and others must be rubbing him towards the heart with all the warm things that can be collected. Cover him with dry coats loaned by the bystanders; keep a wide circle around him free, so that air may be secured. When vitality shows itself, brandy and water in small doses often repeated must be given, and milk or beef-tea. Persons have been restored who have been under water half an hour.

Broken bones.

The right thing to do in an emergency of this kind is simply to keep the part as still as possible until the arrival of the surgeon.

Take two shingles, two sticks, or even the leather covers of an old book, put them on either side of the limb, and fasten a couple of handkerchiefs round them at either end. If the leg is injured it can, instead of this, be tied firmly to the other leg; this will probably bring it into the right shape. Put it close alongside the other, and in the same position; tie a scarf or handkerchief above the knees, and two more at intervals below.

If a collar-bone is broken, put the arm into a short sling, supporting the elbow well. If a joint seems dislocated do not attempt to pull it, a bone may be broken; keep it still and send for the doctor.

Contusions.

When any part of the body is crushed, a foot, hand, etc., raise it above the heart if possible, apply ice or cold water, and *keep it cold*. This will stop the oozing of blood, and probably prevent inflammation.

For the common accident of a badly mashed finger put on cold, wet cloths, and carry the hand in a short sling.

If the knee-cap is broken, lay the patient down and keep the heel raised.

Foreign bodies in the ear.

Never poke and push at the object in the ear. Should it be an insect, turn the head to the opposite side, take hold of the tip of the ear at the top, and pull the ear up a little; this straightens the tube; then pour sweet oil

freely into the ear and hold it there for awhile; the insect will float to the top, and can be removed with the oil. Ten drops of chloroform to a teaspoon of oil will quiet the insect. If any hard substance, like a pebble, has been put in by the child, a stream of warm water forced in behind it from a syringe, will drive it out. That side of the head should be held towards the floor, so that the object may more easily fall out. But should it be something that will swell with moisture, like a bean, etc., take the child to a doctor.

Foreign bodies in the nose.

The child should take a full breath through the mouth, which, with the uninjured nostril, should then be held tight, and the child told to breathe hard through the nose, a slap on the back being given at the same time. If this does not answer and the obstruction is near the nostril, hold the nose firmly above the object and hook the latter out with a bent hair-pin, or else take the child to a doctor.

Foreign body in the eye.

If the object is under the lower lid, pull the lid down, direct that the eye be turned towards the nose, and remove the particle, rubbing in the same direction with a camel's-hair pencil or a soft rag, or the end of a finger. If the object is under the upper lid, lay a pencil or knitting-needle or paper-knife across the lid, turning the lid up over it until the object is seen; remove in the same way. If the object adheres to the surface of the eye, and enters it, as a bit of iron-filing may, a physician should be consulted at once.

How choking can be relieved.

A smart blow with the flat of the hand on the back, just below the neck, will often relieve the wind-pipe when

obstructed; but if one or two do not dislodge the substance, they should not be repeated. Send for the doctor. A child may be taken up by its feet, head downwards, and a slight blow on the back will bring relief. This method, though it seems harsh, is effectual.

What can be done in case of fire.

If the clothes take fire, roll the child or grown person upon the floor over and over. Seize, if possible, or call for a rug, blanket, or anything of wool to wrap him in. If you do not in this way extinguish the fire, you will at least lessen the chances of the chest being burned, and of the flames being inhaled.

How burns should be treated.

Great care must be taken in removing the clothes not to pull off the surface of the skin, which will seriously increase the danger. Pour over the burn a strong solution of baking-soda and water, and then olive-oil, that is not rancid,—linseed oil, if at hand, is better,—and lard may be used if oil cannot be had immediately. Fine wheat flour should then be dusted over the oiled surface. This can be done with a dredging-box. The layer of flour should be quite thick, and should extend beyond the burnt surface. Over this again should be placed a layer of fine cotton batting, which may be kept in place by very light bandaging. If the extremities are cold, put bottles of hot water around the feet, and in cases of extreme prostration, hot brandy and water, wine-whey, or milk-punch may be given freely, until the arrival of the physician.

Attention must be given to the secretions, which must be kept free. Any symptom which may indicate inflam-

mation of the head, chest, or abdomen must be reported, and opiates, or whatever is ordered, must be carefully given, while the strength is kept up with good food.

Burning by lime, potash, etc.

The destruction of the soft parts beneath the skin is very rapid; apply vinegar and water at once to unite with the alkali and prevent further harm, then treat as any burn. Do the same if a fragment of lime should have got into the eye: apply vinegar and water, or lemon-juice and water, immediately, and go to a physician. If lye has been swallowed give vinegar and water, half and half; follow with an ounce or more of sweet oil.

Acids.

Oil of vitriol, nitric acid, and other acids eat quickly into the skin; pour water over the part to wash off the acid, and afterwards treat like any burn.

Scalds.

Treat these as any other burn. They are very serious if extensive, as the skin is generally entirely removed from the part burned.

Poisons.

When poison of any kind has been swallowed, try at once to promote vomiting. Give a tablespoon of ground mustard in a tumbler of warm water, a quarter of it at one time, followed by a cup of warm water, then another quarter and more warm water; keep this up until vomiting is secured.

Tickling the back of the throat with the finger or a feather is a help. After free vomiting, give the whites of two eggs stirred in a tumbler of water. If the mouth is tight shut, let some one pass the thumbs along the

cheeks inside the mouth, and work them in behind where there are no teeth, keeping them there while the emetic is given. Always send for the doctor.

If there is no mustard, common salt will do as well, as much as a tumbler of warm water will dissolve. After vomiting is over, a quantity of warm milk may be given. In opium poisoning give strong coffee. If breathing becomes infrequent or stops keep up artificial breathing as in drowning cases and wash out the stomach if necessary. If the poison is *an alkali*, such as washing-soda, etc., give vinegar and water as soon as possible without waiting for the emetic which must be given, to take effect. If *oxalic acid*, which is frequently kept on hand to clean brasses, has been swallowed, give at once a tablespoonful or more of magnesia or common whiting, such as is used to polish silver, and follow it in two or three minutes with the emetic. If *arsenic* has been taken, give the emetic at once, and send *or take* the patient to a druggist's for dialysed iron,—a tablespoonful every few moments is the dose. If opium, laudanum, or morphine has been swallowed, give the mustard emetic at once; if the breathing is growing very slow, keep up respiration as in cases of drowning. If the poison is strychnine, use the mustard emetic.

Illuminating gas poisoning.

This is a case for prompt medical care. Meantime, give all the air possible. Keep the patient quiet; give brandy by the mouth.

A trained nurse should know how to administer also strychnine hypodermically.

Bites.

For the sting of any insect which becomes painful, apply salt dampened and rubbed in, or hartshorn and

water. Where there is suspicion of poison, treat like the bite of a mad dog.

Rabid dogs and poisonous snakes.

The bites of these should be treated alike. Let some one (the patient is the best person when he can reach the place) take up the flesh on either side of the bite firmly between his teeth and suck the place, spitting out the saliva at once. If the position of the bite allows it, tie a handkerchief firmly round the limb above the wound. Meantime, the poker or a nail should be made red-hot and pressed well into the wound over the whole bite. When the burning is properly done the tissues will be white. Remove the hot poker. Give as large a dose of brandy as the patient can bear.

Stick caustic will answer, moistened in water, in place of the poker.

Poison ivy.

The itching and discomfort may be relieved by bathing the part in a mixture of

Two teaspoons of carbolic acid, pure.

Two tablespoons of glycerin.

One-half pint of water or rose-water.

To stop bleeding.

When blood comes in jets, with a spurt at each beat of the heart, an artery is cut. Lose no time in sending for the doctor. Meanwhile, fasten a firm pad tightly over the place with a bandage, and, if the wound is in the hand or arm, compress firmly with the fingers the brachial artery; if the blood comes from the foot or leg, compress the femoral artery against the pelvic bone in the groin. If the head or body is injured, where the artery

between the wound and the heart cannot be compressed, take a dry towel, fold it and press firmly upon the bleeding part, and do not relax the pressure for an instant until the doctor comes. One person may relieve another. Ice should be applied all about the wound, and when it is possible, the injured part should be raised above the heart.

If the flow of blood is slow and deep red there is less danger, but it must be stopped. Make a firm pad and press it over the wound, fastening it in place with a bandage; use ice, as in the other case, and keep the part raised.

Fainting on loss of blood is useful; for the time it helps to arrest the flow and should not be interfered with. After the bleeding is stopped the head may be raised, and a teaspoonful of brandy in a little water may be given, and repeated every half-hour until the faintness has gone. The tight bandage tied round the limb may be an injury if long continued. Let there be no delay in sending for the doctor.

Bleeding from the nose.

Lay the patient down with the head raised, never hold the head over a basin; apply cold, either ice or cloths dipped in water, across the nose and round it and over the forehead. Raise the hands above the head. If bleeding is excessive in spite of this, send for a doctor. The patient should breathe only through the mouth, and should avoid blowing the nose.

Bleeding from the lungs.

The blood in this case comes in small quantities, is light red and frothy, and sometimes contains mucus.

The common practice of giving dry salt in this case will often be very injurious; it irritates the throat, makes the patient gag and cough, and frequently produces vomiting, all of which is extremely bad. Give, instead, small pieces of cracked ice, to be swallowed whole; keep the head and shoulders raised, and send for the doctor.

Bleeding from the stomach

need never be mistaken for bleeding from the lungs; the blood comes in much larger quantities, and is thick and dark, and is vomited up. Apply a mustard-plaster over the stomach, give cracked ice, and send for the doctor.

ABBREVIATIONS.

Some Abbreviations and Terms commonly used in Hospitals.

- Ana (āā), of each.
Ante cibos (a. c.), before meals.
Ante cibum, before food.
Ad libitum, at pleasure.
Aqua, water.
Aseptic, free from putrefaction.
Antiseptic, having power to prevent or destroy putrefaction.
Bis in die (b. d.), twice daily.
Capsula (cap.), capsule.
Cardiac, pertaining to the heart.
Capillary, like a hair, small blood-vessels.
Cataplasm, poultice.
c. c., cubic centimetre.
Cibus, food.
Charta (cht.), a paper to hold medicine.
Cochleare, spoon.
Cochleare magnum, tablespoon.
Cochleare medium, dessertspoon.
Cochleare parvum, teaspoon.
Ceratum, cerate; a composition of lard with wax or oil.
Congius (c.), gallon.
Cortex, bark.
Diebus alternis, every other day.
Extractum (ext.), extract.
Emplastrum (emp.), a plaster or blister.
Fluidus (fl.), fluid.
Fotus, fomentation.
Gargarismus (garg.), gargle.
Gutta (gt.), drop.
Guttæ (gtt.), drops.
Guttatim, drop by drop.
Hora (h. or hor.), hour.
Hora somni (h. s.), bedtime.
Hora omni (o. h.), at any (odd) hour.

- Horis alternis, every other hour.
In die, daily.
Infusio (inf.), infusion, steeping in boiling water.
Injectio (inj.), injection.
Libra (lib.), pound.
Liquor (liq.), solution.
Ligature, a cord used for tying.
Misce (M.), mix.
Narcotic, sleep producer.
Nocte, at night.
Noctibus alternis, every other night.
Nox, night.
Octarius (O.), pint.
Ointment, a fatty preparation containing a medicinal agent.
Post cibos (p. c.), after meals.
Post cibum, after food.
Pro re nata (p. r. n.), when necessary.
Pulvis (pulv.), powder.
Quaque hora (q. h.), at every hour.
Quantum sufficit (q. s.), sufficient quantity.
R. Recipe, take.
S. or Sig., signa, write; *i.e.*, give the following directions.
Semissis (ss.), half.
Solutio, solution.
Syrupus (syr.), syrup.
Spiritus (spts.), spirit.
Spiritus frumenti (S. F.), whiskey.
Spiritus juniperi, gin.
Spiritus vini rectificati (S. V. R.), alcohol.
Spiritus vini Gallici (S. V. G.), brandy.
Statim (stat.), immediately.
Suppositorium (suppos.), suppository.
Suture, a stitch, or the material used.
Tinctura (tinct. or tr.), tincture.
Trochiscus (troch.), lozenge.
Ter in die (t. i. d.), three times a day.
Unguentum (ung.), ointment.
Umbilicus, navel.
Vinum, wine.
Vinum Xericum, sherry.
Vinum Portense, port wine.

VOCABULARY.

Some Words whose Meaning the Nurse should Know.

Acute (ā-kūt'). An acute pain is a sharp, severe pain; an acute disease is one in which the onset, progress, and termination are rapid.

Adhe'sion. The growing together of two surfaces of parts.

Aliment'ary. Pertaining to nutrition.

Albuminu'ria. The presence of albumin in the urine.

Anodyne (an'ō-dīn). An agent which relieves pain.

Antipyret'ic. An agent which lowers bodily heat.

Antisep'tic. Preventing putrefaction.

Amputa'tion. A removal of a part of the body.

Ap'oplexy. A sudden paralysis (generally from rupture of a cerebral vessel).

Apposi'tion. In contact.

Ascites (a-si'tēz). An abnormal collection of fluid in the abdominal cavity.

Asphyx'ia. Suspension of animation from lack of oxygen in the blood.

Aspira'tion. A method of withdrawing fluid by means of the aspirator.

Asepsis (a-sep'sis). The absence of septic matter.

Atrophy (at'ro-fe). Wasting of a part from lack of nutrition.

Auscultation (os-cul-tā'shun). The art of listening to sounds produced in organs of the body—usually, heart and lungs.

Bistoury (bis'too-rē). A narrow-bladed knife used in surgery.

Callous. Hard.

Carcinoma (kar-sē-no'ma). Cancer, a malignant form of tumor.

Caustic. Burning—a substance which destroys living tissue.

Cal'culus. A stone-like concretion found in the body.

Chronic (kron'ik). Long continued; often opposed to acute.

Cicatrix (si-kā'triks). A scar which remains after the healing of a wound.

Collapse'. Complete prostration of the vital powers.

Co'ma. A state of profound stupor.

- Congen'ital. Existing from birth.
- Conta'gion. The communication of a specific disease by contact.
- Crisis (krí'sis). The turning point in disease.
- Crep'itus. The grating of the ends of fractured bones.
- Cyano'sis. Bluish color of the skin, due to imperfect oxidation of the blood.
- Cysti'tis. Inflammation of the bladder.
- Delirium (delir'e-um). Form of insanity with loss of the reasoning powers.
- Deliv'ery. Childbirth.
- Defeca'tion. Evacuation of the bowels.
- Douche (doosh). A stream of water directed forcibly against a part.
- Dicrotic (di-krot'ik). A term applied to a pulse which gives a sensation of a double beat for each contraction of the heart.
- Dyspnœa (disp-ne'ah). Difficult or labored breathing.
- Epistaxis (ep-i-stak'sis). Hemorrhage from the nose.
- Es'march's bandage. Elastic rubber bandage used to prevent or control hemorrhage.
- Excreta (eks-kre'tah). Natural discharges of the body.
- Excrescence (eks-kres'ens). An abnormal outgrowth.
- Exuda'tion. The oozing out of fluids.
- Fæces (fê'ses). The discharges from the bowels.
- Febrile (fê'bril). Pertaining to fever.
- Fermenta'tion. The process of decomposition due to the action of living organisms or by an unorganized agent.
- Fissure (fish'ur). A crack.
- Fistula (fis'tu-lah). An abnormal opening between two parts of the body.
- Flat'ulence. The presence of gas in the alimentary canal.
- Fœ'tus. The unborn child.
- Gastritis (gas-tri'tis). Inflammation of the stomach.
- Germ. The special virus or spore by which a disease becomes communicable.
- Hemorrhage (hem'or-āj). Flow of blood.
- Hemiplegia (hem-i-plég-ē-ah). Paralysis of one side of the body.
- Her'nia. Abnormal protrusion of any viscus from its proper position.
- Hygiene (hi'jē-en). The science of health.
- Hypnotic (hip-not'ik). Sleep-producing.

- Hypoder'mic. Under the skin. Applied to the injection of medicines under the skin.
- Incon'tinence. Involuntary evacuation of the urine or fæces.
- Incuba'tion. The period which elapses between the implanting of the virus and the appearance of the disease.
- Incis'ion. A cutting into.
- Indura'tion. Hardening of a part.
- Infect'ion. The communication of the germs of disease.
- Inflamma'tion. A morbid process characterized by pain, heat, redness, and swelling.
- Intrā-u'terine. Within the uterus.
- Inunc'tion. The act of rubbing in an ointment.
- Lacera'tion. A tearing.
- Lavage. Irrigation of the stomach.
- Le'sion. A morbid change in the structure or function of a tissue from injury or disease.
- Leth'argy. A condition of drowsiness.
- Liv'id. Of a dusky, bluish color, owing to congestion.
- Lochia (lo'kē-ah). Vaginal discharge after labor.
- Lysis (lī'sis). A gradual restoration process in fever.
- Mi'crobe. A micro-organism.
- Narcot'ic. An agent which produces a condition of lethargy or sleep.
- Nephritis (nef-rī'tis). Inflammation of the kidneys.
- Neurasthenia (nu-ras-thē'ne-ah). Exhaustion of nerve force.
- Ophthalmia (off-thal'me-ah). Inflammation of the conjunctivæ.
- Ossifica'tion. Formation of bone.
- Palliative (pal'i-a-tiv). Mitigating, relieving.
- Paraple'gia. Paralysis of the lower half of the body.
- Pathogen'ic. Causing disease.
- Perforation. An opening or penetration.
- Phlebitis (flē-bī'tis). Inflammation of a vein.
- Peristal'sis. Undulating movements of the intestines.
- Relapse'. Recurrence of the disease before complete convalescence.
- Remit'tent. Alternately abating and returning.
- Rigor (ri'gor). A chill; rigidity.
- Reten'tion. The act of retaining urine in the bladder.
- Satura'tion. A term used to denote that a fluid contains as much of a solid substance as it can dissolve.
- Sep'tic. Relating to putrefaction.

- Sordes (sor'dez). The brownish deposit which tends to accumulate about the teeth in disease.
- Ster'torous. Breathing with a snoring sound.
- Subcuta'neous. Under the skin.
- Su'ture. Junction of cranial bones. In surgery a stitch.
- Suppres'sion. Failure of the kidneys to secrete urine.
- Syn'cope (sin'-ko-pe). Fainting or swooning.
- Ten'sion. Tightness. The condition of being drawn tight.
- Thermom'eter. Instrument for measuring heat.
- Tox'ic. Poisonous.
- Toxæmia (toks-ē'meah). Poisoned state of the blood.
- Transfusion. The injection of blood from the vessels of one person into those of another.
- Transuda'tion. An oozing through.
- Tympanites (tim-pan-ī'tez). The distention of the abdomen with gas.
- Urination (u-rin-a'shun). The act of passing urine; micturition.
- Vaccina'tion. Inoculation with a virus obtained from cows, to protect against smallpox.
- Varicose (var'ik-ōs). A term applied to dilated and tortuous veins.
- Ves'icle. A small blister.
- Vol'atile. Readily evaporating.

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